

**ESAT REGION 5**  
**DATA SET CUSTODY TRANSFER FORM**

DATA SET NUMBER: <u>E210602 &amp; E21603</u>	CONTRACT # <u>68HE0121D0002</u>
SITE NAME: <u>SE Rockford GW Contamination</u>	TASK ORDER NO: <u>68HE0521F0046</u>
PARAMETER: <u>1,4-Dioxane</u>	TDF NUMBER: <u>68HE0521F0046-011</u>
MATRIX: <u>Water</u>	JOB #: <u>210056.1.001.01.0110.05DK.0.02</u>

SAMPLE NUMBERS: E210602-01 - E210602-07 & E210603-01 - E210603-06

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NUMBER OF SAMPLES: 13

**ESAT APPROVALS:**

MATTHEW KOBUS (Affiliate)	Digitally signed by MATTHEW KOBUS (Affiliate) Date: 2021.08.05 16:28:01 -05'00'	Bruce Gallant	08/17/2021
Analyst	Date	Second-Level QA Reviewer	Date
Karen L. Tracy	08/18/2021	BRUCE GALLANT (Affiliate)	Digitally signed by BRUCE GALLANT (Affiliate) Date: 2021.08.24 11:59:24 -05'00'
ESAT Final Reviewer	Date	Team Manager Approval (or designee)	Date

COMMENTS: \_\_\_\_\_

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The electronic files of the above identified original data set were transferred from ESAT custody to the custody of the U.S. EPA Region 5 Analytical Service Branch in its entirety on the indicated date relinquished.

Bruce Gallant                    8/24/2021  
 Relinquished by                    Date

**EPA APPROVALS:**

**MICHELLE KERR**                    Digitally signed by MICHELLE  
 KERR  
 Date: 2021.08.27 14:17:19 -05'00'

EPA TM/TOCOR Acceptance                    Date

COMMENTS: \_\_\_\_\_

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[ ]      Reviewed      [ ]      Unreviewed

\_\_\_\_\_ DATA COORDINATOR/RECD/TRANSMITD

**A COPY OF THIS CUSTODY TRANSFER FORM WITH A RECEIVED BY EPA SIGNATURE IS TO BE FILED IN THE TDF FILE. THE ORIGINAL CUSTODY TRANSFER ACCOMPANIES THE DATA SET TO BE APPROVED BY THE EPA.**

## Table of Contents

<b>Method(s) Number:</b>	MS035 ver 2	<b>Site Name:</b>	SE Rockford GW Contamination
<b>Date Generated:</b>	8/25/2021	<b>Author:</b>	Matt Kobus
<b>Job Number:</b>		<b>TDF #:</b>	68HE0521F0046-016

<b>E210606 and E21607 – 1,4-Dioxane</b>	<b>From Page</b>	<b>To Page</b>
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ASB Method Number: \_\_\_\_\_ LIMS Work Order Number: \_\_\_\_\_

Site Name: \_\_\_\_\_ ESAT TDF Number: \_\_\_\_\_

Analyst/Date (QC1): Matt H.

Peer Reviewer/Date (QC2): \_\_\_\_\_

Other Reviewer/Date (QC3): \_\_\_\_\_

NOTE: Please check Y for YES, NA for Not Applicable, and X for NO. If X, please provide your comments in the comments section.

Approvals  
QC1 QC2 QC3

## I. SAMPLE QC

### Sample Preservation - Work order

- Were the samples received at the proper temperature? \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

### Instrument Performance Check - Form 5 or equivalent, raw data

- Does BFB meet the SOP abundance criteria? \_\_\_\_\_
  - \_\_\_\_\_
  - \_\_\_\_\_
- Is the tune report accurate? \_\_\_\_\_
  - \_\_\_\_\_
  - \_\_\_\_\_
- Are all samples analyzed within a 12 hour clock? \_\_\_\_\_
  - \_\_\_\_\_
  - \_\_\_\_\_

### Initial Calibration (ICAL) - Initial calibration report

- Does the ICAL meet the SOP criteria? If not, is data qualified? \_\_\_\_\_
  - \_\_\_\_\_
  - \_\_\_\_\_
- Calculate an RSD and verify a regression fit. Is it accurate? \_\_\_\_\_
  - \_\_\_\_\_
  - \_\_\_\_\_
- Does the ICV meet the SOP criteria? If not, is data qualified? \_\_\_\_\_
  - \_\_\_\_\_
  - \_\_\_\_\_

### Continuing Calibration (CCV) - Form 7 or continuing calibration report

- Does the CCV meet the SOP criteria? If not, is data qualified? \_\_\_\_\_
  - \_\_\_\_\_
  - \_\_\_\_\_
- Calculate a %D. Is it accurate? \_\_\_\_\_
  - \_\_\_\_\_
  - \_\_\_\_\_

### Internal Standards (IS) - Form 8 or equivalent, raw data

- Did the samples meet IS area requirements? If not, is data qualified? \_\_\_\_\_
  - \_\_\_\_\_
  - \_\_\_\_\_
- Did the samples meet IS time requirements? If not, is data qualified? \_\_\_\_\_
  - \_\_\_\_\_
  - \_\_\_\_\_

### Method Blank (MB) - Form 4 or equivalent, raw data

- Is the MB summary header correct? \_\_\_\_\_
  - \_\_\_\_\_
  - \_\_\_\_\_
- Are the associated samples properly listed? \_\_\_\_\_
  - \_\_\_\_\_
  - \_\_\_\_\_
- Is sample data properly qualified for blank contamination? \_\_\_\_\_
  - \_\_\_\_\_
  - \_\_\_\_\_

### Surrogates - LIMS report, raw data

- Are surrogate recoveries within QC limits? If not, is data qualified? \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

	Approvals		
	QC1	QC2	QC3
• Are reported concentrations and percent recovery data in agreement with the quantitation reports and QC forms?	—	—	—
<b><u>Method Reporting Limit (MRL)</u></b> - LIMS report, raw data			
• Are MRL recoveries within QC limits? If not, is data qualified?	—	—	—
• Are MRL recoveries present for all compounds at their respective reporting limits? If not, are reporting limits elevated?	—	—	—
• Are reported concentrations and percent recovery data in agreement with the raw data?	—	—	—
<b><u>Matrix Spike (MS/MSD)</u></b> - LIMS report, raw data			
• Did samplers send in sufficient volume for MS/MSD analysis	—	—	—
• Are MS/MSD recoveries within QC limits? If not, is data qualified?	—	—	—
• Are reported concentrations and percent recovery data in agreement with the raw data?	—	—	—

## **II. QUANTITATION REPORTS and TC & TIC RESULTS of SAMPLES**

- Are draft LIMS reports present for all field samples and QC samples, if applicable? — — —
- Are reported results for detects and non-detects accurate? — — —
- Did mass spectral data support all reported TC and TIC data? — — —
- Are the following LIMS data qualifiers used when needed: J, K, L, N, NJ, R, and U? — — —
- Are final LIMS reports present in duplicate for all field samples and lab blanks? (Note: ASB keeps original FINAL copy and client gets the duplicate). — — —

## **III. MANUAL INTEGRATION AUDIT**

(See QMP Appendix 2 for ASB manual integration policy and procedures)

- Did the analyst perform manual integration audits? — — —
- Are graphic printouts submitted for “before” and “after” manual integrations? — — —
- If manual integrations are missing, are they noted in the case narrative? — — —

## **IV. MISCELLANEOUS**

- Are the following documents submitted with the data package, when available: sample analysis request sheets/COC forms, sample tags, sequence files identifying sample data files used for reporting, completed sample prep/clean-up sheets, and data not used? — — —

<b>Approvals</b>		
<b>QC1</b>	<b>QC2</b>	<b>QC3</b>

- Are the following documents filed in proper binders: GC/MS autotune reports, daily manual tune or mass axis calibration reports, BFB tune reports, calibration reports and sample sequences? \_\_\_\_\_
- Is the bench sheet complete? Are the LIMS IDs for all spiking solutions and calibration standards documented in the package? Are all solvent lot numbers and syringe IDs documented in the package? \_\_\_\_\_
- Is a printout of the work order(s) included? \_\_\_\_\_

## V. CASE NARRATIVE

- Is the case narrative accurate? Are QC outliers explained? \_\_\_\_\_
- Are the narrative, report, and supporting data files backed up to R5CRL? \_\_\_\_\_

Please make sure the following changes to the case narrative have been made:

1. No longer include sample identifications or instrument designations; these are documented in the raw data and LIMS reports.
2. Include the # of samples done, the work order number(s) and the name of the survey. Do not include the name of any other survey in the narrative. If you need to refer to another group of samples, use the work order number.
3. Type the path for data storage. Include the path in a note to the file or on the review checklist. Hand printed paths are very difficult to read. Please do not write them.
4. Make a positive statement that the holding times were met. State if there were any exceptions.
5. Discuss the preparation steps only if there are options. If the preparation is part of the SOP, no discussion is necessary. List any cleanup procedures used if these are optional. If cleanup is a standard part of the method, no discussion is needed.
6. Comment on quality excursions by quality control type with headers stating the control type. All headers will not be present every time. If there are no exceptions, remove that header. State the impact of the excursions on the data. If several QC types have problems, state the overall impact on the data at the end after discussing the parts. Include a general statement that all quality control not specifically discussed in the narrative met quality criteria stated in the SOP.

## VI. DATA CUSTODY

- Is the data set custody transfer present and accurate? \_\_\_\_\_

## VII. COMMENTS

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**Specify the path for data storage (see GEN002 for requirements)**

**Example of R5CRL Data Path: 204.46.24.26\R5CRL\VOL1\EPA-GCMS\”analysis”\”work order”\.....**

**Path:** 204.46.201.26\root share\r5crl\vol2\

<p>Environmental Protection Agency Region 5 Superfund Emergency Management Division / Laboratory Services and Applied Sciences Division</p> <p><b>TECHNICAL DIRECTION FORM(TDF)</b></p>		<p><b>Contract No.</b> 68HE0121D0002</p> <p><b>Contractor:</b> ICF, Inc.</p> <p><b>Task Order No.</b> 68HE0521F0046</p> <p><b>Task Area:</b> 1</p> <p><b>TDF No.</b> 011</p>
<b>TECHNICAL POINT OF CONTACT:</b>	Kerr, Michelle	
<b>SUPERFUND SITE NAME:</b> SE Rockford Groundwater Contamination, Rockford, IL		
<b>SUPERFUND SITE ID #:</b> 303DD2 05DK 05DKLA00		
<b>START DATE:</b> 5/10/2021 <b>COMPLETION DATE:</b> 7/13/2021		
<b>TOTAL HOURS ESTIMATED:</b> 40 hours		
<p><b>TASK DESCRIPTION:</b></p> <p>Area 11. Analyze groundwater samples (11 expected) according to ASB standard operating procedures for low-level 1,4-dioxane (MS035). Normal reporting limits and quality controls per the lab SOPs are the data objectives. Samples are expected at the lab June 7-11; data are due to client 30 days after receipt. Assemble a complete and reviewed data package with the results. Client = John Grabs, CDM and Jennifer Knoepfle, SEMD, US EPA.</p>		
<p><b>DELIVERABLE:</b></p> <p>Final data are due to the client 30 days after sample receipt. Copy r5_sfrecords@epa.gov on transmittal of final deliverables.</p> <p>Deliverables are a full level 4 data package, and Excel EDD. Prepare deliverables and send for transmittal so that data are on time to the client. The full data package(s), report(s), and case narrative(s) will be processed and filed according to SOP GEN032, with the addition of a copy of the chain of custody form(s) to the data package.</p> <p>Notify the TOCOR in writing if any ADOCs are needed before working on samples. All ADOCs must be approved by TOCOR before beginning ADOCs, samples, or reporting sample data. Refer to ASB policy 010 and QA-WI005 for more information on DOCs.</p> <p>The contractor shall immediately notify the TOCOR as soon as it appears that the task may not be completed within the scheduled dates and hours. The contractor shall direct all status reports, transmittals of deliverables (e.g. preliminary data, final data, status &amp; work reports) and all project communications to the TOCOR. A breakdown of hours spent for the project will be provided by the contractor.</p> <p>Update standard, balance, and instrument maintenance logbooks/database entries after each verification, preparation, and analysis (per SOP GEN026). Bring instruments back to original working condition after analysis completed. Notify the TOCOR of any instrumental problems that may need parts or services from manufacturers. Get TOCOR permission in writing before switching or changing any instrument parts or methods. Inform the TOCOR of any standard inventory that is less than three vials/300 psi. Clean the bench area, discard the broken glassware, change the gas tank if it is close to empty, and return the standards to designated areas immediately after analysis is complete. Return samples to Sample Control as soon as analysis is complete (not air canisters). Discard prepared samples within two working days of notification of the TOCOR acceptance of the final data deliverables.</p>		



Invalid signature

**TOCOR  
APPROVAL\***:

X 

Signed by: MICHELLE KERR

\* I CERTIFY THAT THIS TECHNICAL DIRECTIVE DOES NOT REQUEST SERVICES THAT ARE INHERENTLY GOVERNMENTAL FUNCTIONS AND THAT IT DOES NOT ALTER THE (1) STATEMENT OF WORK, (2) PERIOD OF PERFORMANCE, (3) COST OF PERFORMING THE AUTHORIZED WORK, (4) LABOR MIX, OR (5) OTHER TERMS FOR THE ABOVE REFERENCED TASK ORDER.



**ICF Inc ESAT Region 5**  
536 South Clark Street, Suite 734  
Chicago, IL 60605  
(312) 353-8303  
(312) 353-5814 (Fax)

**Date:** 8/23/2021

**Title:** ESAT Data Report for SOUTHEAST ROCKFORD GROUND WATER  
CONTAMINATION  
**To:** Superfund, US EPA Region 5  
77 West Jackson Boulevard  
Chicago, IL 60604  
**From:** Matt Kobus, Chemist  
kobus.matt@epa.gov  
ICF- ESAT Contract

The results reported in this document apply to the samples as received and relate only to the items tested. The data transmitted under this cover memo successfully passed the data review process and applicable Analytical Services Branch (ASB) laboratory Standard Operating Procedures. In accordance with the EPA QA/G-8 *Guidance on Environmental Data Verification and Data Validation*, ASB performs data verification on all the data generated internally. ASB does not perform data validation or quality assessment procedures.

This report was reviewed and the information provided herein accurately represents the analysis performed.

A handwritten signature in blue ink, appearing to read "Matt Kobus", is placed over a horizontal line.

*Please contact the analyst with any technical report issues, Amanda Wroble at (312)-353-0375 for sample project concerns, and Robert Snyder at (312)-353-9083 with data transmittal questions. Thank you.*

**Attached are Results for: SOUTHEAST ROCKFORD GROUND WATER CONTAMINATION**

**Analyses included in this report:**

1,4-Dioxane by SPE Low Level

Report Name: E210602,E210603 E\_Analysis\_v14\_ICF FINAL Aug 23 21 0907



ICF Inc ESAT Region 5  
536 South Clark Street, Suite 734  
Chicago, IL 60605  
(312) 353-3593  
(312) 353-5814 (Fax)  
[www.ICF.com](http://www.ICF.com)

Superfund, US EPA Region 5  
77 West Jackson Boulevard  
Chicago IL, 60604

Project: SOUTHEAST ROCKFORD GROUND WATER CONTAMINATION  
Project Number: ILD981000417  
Project Manager: Michelle Kerr

Reported:  
Aug-23-21 09:07

## **CASE NARRATIVE E210602 and E210603**

### **GENERAL INFORMATION:**

ESAT was tasked with the analysis of a total of thirteen (13) samples for low level 1,4-dioxane using selected ion monitoring (SIM). Samples were split between two work orders seven (7) water samples (E210602-01 to E210602-07) and six (6) water samples (E210603-01 to E210603-06). E210602 were collected June 08, 2021 and received June 09, 2021, samples E210603 were collected June 09, 20201 and received June 10, 2021. All samples were received intact and within the  $\leq 6^{\circ}\text{C}$  preservation requirement.

pH of the laboratory-acidified samples was determined using indicator strips. All samples were properly preserved ( $\text{pH} \leq 2$ ) with sodium bisulfate. All sample extractions and analyses were completed within hold time criteria.

Samples were extracted in batch E21F007 and E21F008 by the manual solid phase extraction (SPE) method on June 28, 2021 and analyzed on June 30, 2021 and re-extracted in batches E21G004 (July 06) and E21G005 (July 07) and analyzed on July 07, 2021. All extractions and analyses were performed according to ASB SOP MS035 version 2 (Low-Level 1,4-Dioxane in Water [EPA 522/SW-846 8000D]), effective May 4, 2020. All samples were reviewed according to ASB SOP MS037 version 5 ([old GEN010] Organics Data Verification), effective April 30, 2019.

### **SAMPLE ANALYSIS & RESULTS:**

The data reported herein meets the Data Quality Objectives provided by the TOCOR referenced in TDF 5-68HE0520F0046-011. All requested compounds were analyzed and reported to the standard reporting limit. All project action limits listed in QAPP revision 2 'QAPP Worksheet #15a: Groundwater Project Action Limits and Laboratory-Specific Detection /Quantitation Limits' were met.

Field QC samples are identified but are not qualified by the laboratory. Sample qualifications for field QC samples are left to the data user. The following samples were identified as field QC:

Trip Blank:  
E210602-01 (A11-MW501-210608)  
E210603-05 (A11-MW007-210609)  
Field Blank  
E210602-07 (A11-MW601-210608)



ICF Inc ESAT Region 5  
536 South Clark Street, Suite 734  
Chicago, IL 60605  
(312) 353-3593  
(312) 353-5814 (Fax)  
[www.ICF.com](http://www.ICF.com)

Superfund, US EPA Region 5  
77 West Jackson Boulevard  
Chicago IL, 60604

Project: SOUTHEAST ROCKFORD GROUND WATER CONTAMINATION  
Project Number: ILD981000417  
Project Manager: Michelle Kerr

**Reported:**  
Aug-23-21 09:07

No qualifications are necessary for annual analyst demonstration of capability (ADoC) samples,

Batch QC samples may show analytes with values below the reporting limit; values below the reporting limit are flagged "J" in LIMS.

All samples are reported in µg/L in LIMS.

### **QUALITY CONTROLS:**

Quality control measures not specifically discussed in this narrative met all quality criteria stated in the SOPs.

#### **1. Instrument Performance Check (Tune):**

All samples were analyzed within 12 hours of the tune. No qualifications are necessary.

#### **2. Initial Calibration (ICAL):**

A 10-point calibration was performed for 1,4-dioxane by SIM analysis on June 24, 2021. All reported compounds used average response and were within the  $\leq 20\%$  RSD limit. All compounds have a calibration range from 5 µg/L to 1000 µg/L on column. No qualifications are necessary.

#### **3. Initial Calibration Verification (ICV):**

1,4-Dioxane was within the  $\pm 20\%$  limit for the ICV analyzed June 24, 2021. No qualifications are necessary.

#### **4. Continuing Calibration Verification (CCV):**

All reported compounds were within the  $\pm 20\%$  limit for all CCVs. No qualifications are necessary.

#### **5. Blank Results:**

Method blanks, E21F007-BLK1, E21G004-BLK1 and E21G005-BLK1 were non-detect for 1,4-dioxane. No qualifications are necessary.

#### **6. Internal Standard:**

Tetrahydrofuran-d8 was within acceptance limits in all reported samples. No qualifications are necessary.



ICF Inc ESAT Region 5  
536 South Clark Street, Suite 734  
Chicago, IL 60605  
(312) 353-3593  
(312) 353-5814 (Fax)  
[www.ICF.com](http://www.ICF.com)

Superfund, US EPA Region 5  
77 West Jackson Boulevard  
Chicago IL, 60604

Project: SOUTHEAST ROCKFORD GROUND WATER CONTAMINATION  
Project Number: ILD981000417  
Project Manager: Michelle Kerr

Reported:  
Aug-23-21 09:07

## 7. Surrogate Recovery:

Initial extracts had surrogate recoveries above the 64-109% recovery limits in most extracts. It was determined the spiking standards were bias high and all standards were reprepared. All samples except E210602-01 were re-extracted using the remaining volume. Sample E210602-03 (112%), E210603-05 (110%) and -06 (118%) were reported from the second extraction with high surrogate recovery. The associated analyte 1,4-dioxane was flagged "K" in the sample E210602-03. Samples E210603-05 and -06 were non-detect and did not require qualification.

## 8. Blank Spike / Blank Spike Duplicate (BS / BSD):

Blank spike E21G004-BSD1 recovery was 115% above the 70-106% limits. All associated samples with detects for 1,4-dioxane were qualified "K".

Blank Spike Samples E21G004-BS1 and E21G005-BS1/ BSD1 had all reported compounds within acceptance limits. No qualifications are necessary.

## 9. Method Reporting Limit (MRL):

Sample E21G004-MRL1 and E21G005-MRL1 are the reporting limit spikes. Results between the MDL and MRL are flagged "J". All results were within acceptance limits. No qualifications are necessary.

## 10. Matrix Spike / Matrix Spike Duplicate (MS / MSD):

MS / MSD analysis was not reported on these samples.

## MANUAL CALCULATION:

**Concentration for 1,4-dioxane in sample E200602-02, analyzed July 07, 2021 @ 17:44**

$$Cx = [Ax * CIS * Vt * Df] / [AIS * ARF * Vo]$$

Cx= Concentration of the compound to be measured ( $\mu\text{g/L}$  water)

Ax= Area of the primary characteristic ion for the compound to be measured

AIS= Area of the primary characteristic ion for the specific internal standard

CIS= Concentration of the specific internal standard ( $\mu\text{g/L}$ )

Vt= Volume of the concentrated extract in milliliters (mL)

Df= Dilution factor



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**Chicago, IL 60605**  
**(312) 353-3593**  
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Project: SOUTHEAST ROCKFORD GROUND WATER CONTAMINATION  
Project Number: ILD981000417  
Project Manager: Michelle Kerr

**Reported:**  
Aug-23-21 09:07

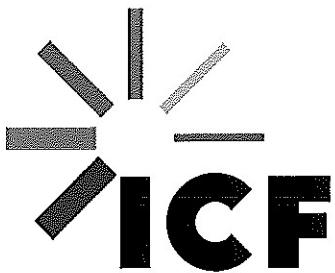
ARF= Average response factor for the compound from the calibration curve

Vo= Volume of sample extracted in milliliters (mL)

$$\mu\text{g/L} = [109201 * 50 * 10 * 1] / [35563 * 0.848 * 244]$$

Calculated concentration = 7.420148 μg/L, which rounds to 7.42 μg/L.

The value reported in LIMS is 7.42 μg/L.



ESAT Region 5  
536 South Clark Street, Suite  
734 Chicago, IL 60605  
(312) 353-2964  
(312) 353-5814 (Fax)

WORK ORDER

Printed: 6/10/2021 8:46:55AM

E210602

ICF- ESAT Contract

Client: Superfund, US EPA Region 5

Project Manager: Bruce Gallant

Project: SOUTHEAST ROCKFORD GROUND WATER C

Project Number: ILD981000417

Report To:

Michelle Kerr  
Superfund, US EPA Region 5

77 West Jackson Boulevard  
Chicago, IL 60604

Phone: (312) 353-2310  
Fax: (312) 886-6171

Date Due: Jul-09-21 15:00 (30 day TAT)

Received By: Matt Kobus

Date Received: Jun-09-21 15:43

Logged In By: Matt Kobus

Date Logged In: Jun-09-21 16:05

Samples Received at:	0.9°C
Custody Seals	Yes
Containers Intact	Yes
COC/Labels Agree	Yes
Preservation Confirmed	Yes

Analysis	Due	TAT	Expires	Comments
E210602-01 A11-MW501-210608 [Water] Sampled Jun-09-21 06:19 (GMT-06:00) Central Time (US & Canada)				TB
1,4-Dioxane by SPE Low Level	Jul-09-21 12:00	30	Jul-07-21 06:19	
E210602-02 A11-MW130A-210608 [Water] Sampled Jun-08-21 08:05 (GMT-06:00) Central Time (US & Canada)				A11-MW130A
1,4-Dioxane by SPE Low Level	Jul-09-21 12:00	30	Jul-06-21 08:05	
E210602-03 A11-MW006-210608 [Water] Sampled Jun-08-21 10:08 (GMT-06:00) Central Time (US & Canada)				A11-MW006
1,4-Dioxane by SPE Low Level	Jul-09-21 12:00	30	Jul-06-21 10:08	
E210602-04 A11-MW005-210608 [Water] Sampled Jun-08-21 00:00 (GMT-06:00) Central Time (US & Canada)				A11-MW005
1,4-Dioxane by SPE Low Level	Jul-09-21 12:00	30	Jul-06-21 00:00	
E210602-05 A11-MW004B-210608 [Water] Sampled Jun-08-21 14:20 (GMT-06:00) Central Time (US & Canada)				A11-MW004B
1,4-Dioxane by SPE Low Level	Jul-09-21 12:00	30	Jul-06-21 14:20	
E210602-06 A11-MW001-210608 [Water] Sampled Jun-08-21 00:00 (GMT-06:00) Central Time (US & Canada)				A11-MW001
1,4-Dioxane by SPE Low Level	Jul-09-21 12:00	30	Jul-06-21 00:00	

## WORK ORDER

Printed: 6/10/2021 8:46:55AM

**E210602****ICF- ESAT Contract**

Client: Superfund, US EPA Region 5

Project Manager: Bruce Gallant

Project: SOUTHEAST ROCKFORD GROUND WATER C

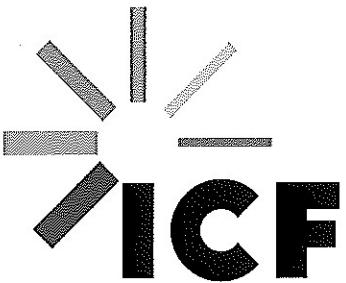
Project Number: ILD981000417

Analysis	Due	TAT	Expires	Comments
E210602-07 A11-MW601 210608 [Water] Sampled Jun-08-21 16:10 (GMT-06:00) Central Time (US & Canada)				FB
1,4-Dioxane by SPE Low Level	Jul-09-21 12:00	30	Jul-06-21 16:10	

Reviewed By

6/10/2021  
Date

Page 2 of 2



ESAT Region 5  
536 South Clark Street, Suite  
734 Chicago, IL 60605  
(312) 353-2964  
(312) 353-5814 (Fax)

WORK ORDER

Printed: 6/14/2021 11:05:59AM

E210603

ICF- ESAT Contract

Client: Superfund, US EPA Region 5  
Project: SOUTHEAST ROCKFORD GROUND WATER C

Project Manager: Bruce Gallant  
Project Number: ILD981000417

Report To:

Michelle Kerr  
Superfund, US EPA Region 5

77 West Jackson Boulevard  
Chicago, IL 60604

Phone: (312) 353-2310  
Fax: (312) 886-6171

Date Due: Jul-10-21 15:00 (30 day TAT)

Received By: Matt Kobus

Date Received: Jun-10-21 16:00

Logged In By: Matt Kobus

Date Logged In: Jun-10-21 16:30

Samples Received at: 2.4°C  
Custody Seals Yes  
Containers Intact Yes  
COC/Labels Agree Yes  
Preservation Confirmed Yes

Analysis	Due	TAT	Expires	Comments
E210603-01 A11-MW002-210609 [Water] Sampled Jun-09-21 12:20 (GMT-06:00) Central Time (US & Canada)				A11-MW002
1,4-Dioxane by SPE Low Level	Jul-11-21 12:00	30	Jul-07-21 12:20	
E210603-02 A11-MW003-210609 [Water] Sampled Jun-09-21 07:40 (GMT-06:00) Central Time (US & Canada)				A11-MW003
1,4-Dioxane by SPE Low Level	Jul-10-21 12:00	30	Jul-07-21 07:40	
E210603-03 A11-MW004A-210609 [Water] Sampled Jun-09-21 14:30 (GMT-06:00) Central Time (US & Canada)				A11-MW004A
1,4-Dioxane by SPE Low Level	Jul-10-21 12:00	30	Jul-07-21 14:30	
E210603-04 A11-MW007-210609 [Water] Sampled Jun-09-21 09:35 (GMT-06:00) Central Time (US & Canada)				A11-MW004A
1,4-Dioxane by SPE Low Level	Jul-10-21 12:00	30	Jul-07-21 09:35	
E210603-05 A11-MW502-210609 [Water] Sampled Jun-09-21 06:00 (GMT-06:00) Central Time (US & Canada)				A11-MW502
1,4-Dioxane by SPE Low Level	Jul-10-21 12:00	30	Jul-07-21 06:00	
E210603-06 A11-MW701-210609 [Water] Sampled Jun-09-21 09:50 (GMT-06:00) Central Time (US & Canada)				A11-MW701
1,4-Dioxane by SPE Low Level	Jul-10-21 12:00	30	Jul-07-21 09:50	

Reviewed By

6/14/2021

Date

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Project Number: ILD981000417  
Project Manager: Michelle Kerr

Reported:  
Aug-23-21 09:07

**1,4-Dioxane by GC-MS**  
**ICF- ESAT Contract**

**A11-MW501-210608 (E210602-01)**

**Matrix: Water**

**Sampled: Jun-09-21 06:19**

**Received: Jun-09-21 15:43**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
<b>1,4-Dioxane</b>	<b>U</b>			0.205	ug/L	1	E21F007	Jun-28-21	Jun-30-21
Surrogate	Result			%REC		%REC Limits	Batch	Prepared	Analyzed
<i>1,4-Dioxane-d8</i>	1.05			102%		64-109	"	"	"

**A11-MW130A-210608 (E210602-02RE1)**

**Matrix: Water**

**Sampled: Jun-08-21 08:05**

**Received: Jun-09-21 15:43**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
<b>1,4-Dioxane</b>	<b>7.42</b>	K		0.205	ug/L	1	E21G004	Jul-06-21	Jul-07-21
Surrogate	Result			%REC		%REC Limits	Batch	Prepared	Analyzed
<i>1,4-Dioxane-d8</i>	1.12			109%		64-109	"	"	"

**A11-MW006-210608 (E210602-03RE1)**

**Matrix: Water**

**Sampled: Jun-08-21 10:08**

**Received: Jun-09-21 15:43**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
<b>1,4-Dioxane</b>	<b>5.91</b>	K		0.212	ug/L	1	E21G004	Jul-06-21	Jul-07-21
Surrogate	Result			%REC		%REC Limits	Batch	Prepared	Analyzed
<i>1,4-Dioxane-d8</i>	1.19	K, Q		112%		64-109	"	"	"

**A11-MW005-210608 (E210602-04RE1)**

**Matrix: Water**

**Sampled: Jun-08-21 10:45**

**Received: Jun-09-21 15:43**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
<b>1,4-Dioxane</b>	<b>6.29</b>	K		0.202	ug/L	1	E21G004	Jul-06-21	Jul-07-21
Surrogate	Result			%REC		%REC Limits	Batch	Prepared	Analyzed
<i>1,4-Dioxane-d8</i>	0.980			97.2%		64-109	"	"	"

**A11-MW004B-210608 (E210602-05RE1)**

**Matrix: Water**

**Sampled: Jun-08-21 14:20**

**Received: Jun-09-21 15:43**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
<b>1,4-Dioxane</b>	<b>8.74</b>	K		0.195	ug/L	1	E21G004	Jul-06-21	Jul-07-21
Surrogate	Result			%REC		%REC Limits	Batch	Prepared	Analyzed
<i>1,4-Dioxane-d8</i>	1.00			103%		64-109	"	"	"



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Chicago, IL 60605  
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(312) 353-5814 (Fax)  
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77 West Jackson Boulevard  
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**1,4-Dioxane by GC-MS**  
**ICF- ESAT Contract**

**A11-MW001-210608 (E210602-06RE1)**

**Matrix: Water      Sampled: Jun-08-21 14:40      Received: Jun-09-21 15:43**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
<b>1,4-Dioxane</b>	<b>10.1</b>	K		0.194	ug/L	1	E21G004	Jul-06-21	Jul-07-21
Surrogate	Result			%REC			%REC Limits	Batch	Prepared
<i>1,4-Dioxane-d8</i>	0.969			100%		64-109	"	"	"

**A11-MW601 210608 (E210602-07RE1)**

**Matrix: Water      Sampled: Jun-08-21 16:10      Received: Jun-09-21 15:43**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
<b>1,4-Dioxane</b>	<b>U</b>			0.197	ug/L	1	E21G004	Jul-06-21	Jul-07-21
Surrogate	Result			%REC			%REC Limits	Batch	Prepared
<i>1,4-Dioxane-d8</i>	1.06			108%		64-109	"	"	"

**A11-MW002-210609 (E210603-01RE1)**

**Matrix: Water      Sampled: Jun-09-21 12:20      Received: Jun-10-21 16:00**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
<b>1,4-Dioxane</b>	<b>0.250</b>			0.197	ug/L	1	E21G005	Jul-07-21	Jul-07-21
Surrogate	Result			%REC			%REC Limits	Batch	Prepared
<i>1,4-Dioxane-d8</i>	0.893			90.8%		64-109	"	"	"

**A11-MW003-210609 (E210603-02RE1)**

**Matrix: Water      Sampled: Jun-09-21 07:40      Received: Jun-10-21 16:00**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
<b>1,4-Dioxane</b>	<b>6.42</b>			0.195	ug/L	1	E21G005	Jul-07-21	Jul-07-21
Surrogate	Result			%REC			%REC Limits	Batch	Prepared
<i>1,4-Dioxane-d8</i>	0.949			97.2%		64-109	"	"	"

**A11-MW004A-210609 (E210603-03RE1)**

**Matrix: Water      Sampled: Jun-09-21 14:30      Received: Jun-10-21 16:00**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
<b>1,4-Dioxane</b>	<b>0.480</b>			0.195	ug/L	1	E21G005	Jul-07-21	Jul-07-21
Surrogate	Result			%REC			%REC Limits	Batch	Prepared
<i>1,4-Dioxane-d8</i>	0.941			96.4%		64-109	"	"	"



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77 West Jackson Boulevard  
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**1,4-Dioxane by GC-MS**  
**ICF- ESAT Contract**

A11-MW007-210609 (E210603-04RE1)

**Matrix: Water      Sampled: Jun-09-21 09:35      Received: Jun-10-21 16:00**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
1,4-Dioxane	U			0.195	ug/L	1	E21G005	Jul-07-21	Jul-07-21
Surrogate	Result			%REC			%REC Limits	Batch	Prepared
1,4-Dioxane-d8	0.992			102%		64-109	"	"	"

A11-MW502-210609 (E210603-05RE1)

**Matrix: Water      Sampled: Jun-09-21 06:00      Received: Jun-10-21 16:00**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
1,4-Dioxane	U	K		0.194	ug/L	1	E21G005	Jul-07-21	Jul-07-21
Surrogate	Result			%REC			%REC Limits	Batch	Prepared
1,4-Dioxane-d8	1.06	K, Q		110%		64-109	"	"	"

A11-MW701-210609 (E210603-06RE1)

**Matrix: Water      Sampled: Jun-09-21 09:50      Received: Jun-10-21 16:00**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
1,4-Dioxane	U	K		0.195	ug/L	1	E21G005	Jul-07-21	Jul-07-21
Surrogate	Result			%REC			%REC Limits	Batch	Prepared
1,4-Dioxane-d8	1.15	K, Q		118%		64-109	"	"	"



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**1,4-Dioxane by GC-MS - Quality Control**  
**ICF- ESAT Contract**

**Batch E21F007 - EPA 522**

**Blank (E21F007-BLK1)**

**Prepared: Jun-28-21 Analyzed: Jun-30-21**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
1,4-Dioxane	U			0.200	ug/L						
Surrogate: 1,4-Dioxane-d8	1.05				"	1.00		105%	64-109		

**LCS (E21F007-BS1)**

**Prepared: Jun-28-21 Analyzed: Jun-30-21**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
1,4-Dioxane	1.03			0.200	ug/L	1.00		103%	70-106		
Surrogate: 1,4-Dioxane-d8	1.12	K, Q			"	1.00		112%	64-109		

**LCS Dup (E21F007-BSD1)**

**Prepared: Jun-28-21 Analyzed: Jun-30-21**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
1,4-Dioxane	0.952			0.200	ug/L	1.00		95.2%	70-106	7.52	17
Surrogate: 1,4-Dioxane-d8	1.02				"	1.00		102%	64-109		

**MRL Check (E21F007-MRL1)**

**Prepared: Jun-28-21 Analyzed: Jun-30-21**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
1,4-Dioxane	0.189	J		0.200	ug/L	0.200		94.6%	49-131		
Surrogate: 1,4-Dioxane-d8	0.982				"	1.00		98.2%	64-109		

**Matrix Spike (E21F007-MS1)**

**Source: E210607-01**

**Prepared: Jun-28-21 Analyzed: Jun-30-21**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
1,4-Dioxane	1.12	K		0.207	ug/L	1.03	U	108%	64-112		
Surrogate: 1,4-Dioxane-d8	1.09				"	1.03		106%	64-109		

**Matrix Spike Dup (E21F007-MSD1)**

**Source: E210607-01**

**Prepared: Jun-28-21 Analyzed: Jun-30-21**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
1,4-Dioxane	0.924	K, Q		0.205	ug/L	1.02	U	90.2%	64-112	18.2	12
Surrogate: 1,4-Dioxane-d8	1.17	K, Q			"	1.02		114%	64-109		

**Batch E21G004 - EPA 522**



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Project Number: ILD981000417  
Project Manager: Michelle Kerr

Reported:  
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**1,4-Dioxane by GC-MS - Quality Control**  
**ICF- ESAT Contract**

**Batch E21G004 - EPA 522**

Blank (E21G004-BLK1)										
Analyte	Result	Flags / Qualifiers	MDL	Reporting		Spike Level	Source Result	%REC	%REC Limits	RPD RPD Limit
				Limit	Units					
1,4-Dioxane	U			0.200	ug/L					
Surrogate: 1,4-Dioxane-d8	1.07			"		1.00		107%	64-109	

LCS (E21G004-BS1)										
Analyte	Result	Flags / Qualifiers	MDL	Reporting		Spike Level	Source Result	%REC	%REC Limits	RPD RPD Limit
				Limit	Units					
1,4-Dioxane	0.990			0.200	ug/L	1.00		99.0%	70-106	
Surrogate: 1,4-Dioxane-d8	0.973			"		1.00		97.3%	64-109	

LCS Dup (E21G004-BSD1)										
Analyte	Result	Flags / Qualifiers	MDL	Reporting		Spike Level	Source Result	%REC	%REC Limits	RPD RPD Limit
				Limit	Units					
1,4-Dioxane	1.15	K, Q		0.200	ug/L	1.00		115%	70-106	15.0 17
Surrogate: 1,4-Dioxane-d8	1.03			"		1.00		103%	64-109	

MRL Check (E21G004-MRL1)										
Analyte	Result	Flags / Qualifiers	MDL	Reporting		Spike Level	Source Result	%REC	%REC Limits	RPD RPD Limit
				Limit	Units					
1,4-Dioxane	0.188	J		0.200	ug/L	0.200		94.2%	49-131	
Surrogate: 1,4-Dioxane-d8	1.02			"		1.00		102%	64-109	

Batch E21G005 - EPA 522										
Blank (E21G005-BLK1)										
Analyte	Result	Flags / Qualifiers	MDL	Reporting		Spike Level	Source Result	%REC	%REC Limits	RPD RPD Limit
				Limit	Units					
1,4-Dioxane	U			0.200	ug/L					
Surrogate: 1,4-Dioxane-d8	1.02			"		1.00		102%	64-109	

LCS (E21G005-BS1)										
Analyte	Result	Flags / Qualifiers	MDL	Reporting		Spike Level	Source Result	%REC	%REC Limits	RPD RPD Limit
				Limit	Units					
1,4-Dioxane	0.931			0.200	ug/L	1.00		93.1%	70-106	
Surrogate: 1,4-Dioxane-d8	0.992			"		1.00		99.2%	64-109	



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Project Manager: Michelle Kerr

Reported:  
Aug-23-21 09:07

**1,4-Dioxane by GC-MS - Quality Control**  
**ICF- ESAT Contract**

**Batch E21G005 - EPA 522**

Prepared & Analyzed: Jul-07-21										
Analyte	Result	Flags / Qualifiers	MDL	Reporting		Spike Level	Source Result	%REC	%REC Limits	RPD RPD Limit
				Limit	Units					
1,4-Dioxane	0.888			0.200	ug/L	1.00		88.8%	70-106	4.75 17
Surrogate: 1,4-Dioxane-d8	0.913				"	1.00		91.3%	64-109	

**MRL Check (E21G005-MRL1)**

Prepared & Analyzed: Jul-07-21										
Analyte	Result	Flags / Qualifiers	MDL	Reporting		Spike Level	Source Result	%REC	%REC Limits	RPD RPD Limit
				Limit	Units					
1,4-Dioxane	0.170	J		0.200	ug/L	0.200		85.2%	49-131	
Surrogate: 1,4-Dioxane-d8	0.998				"	1.00		99.8%	64-109	



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**Chicago, IL 60605**  
**(312) 353-3593**  
**(312) 353-5814 (Fax)**  
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77 West Jackson Boulevard  
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**Reported:**  
Aug-23-21 09:07

#### Notes and Definitions

- K The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
- J The identification of the analyte is acceptable; the reported value is an estimate.
- U Not Detected
- NR Not Reported
- Q QC limit Exceeded



Date: August 17, 2021

To: Michelle Kerr, EPA COR

From: Matt Kobus, ESAT Chemist

Thru: Bruce Gallant, ESAT Team Manager

Ref: TDF#: 68HE0521F0046-011  
Job#: 210056.1.001.01.0110.05DK.0.02  
Contract #: 68HE0121D0002

SUBJECT: Data Set E210602 and E210603: GCMS 1,4-Dioxane water samples using EPA Method 522 (ASB Method MS035 ver 2, effective May 4, 2020)

Attached is the deliverable for data set E210602 and E210603 1,4-dioxane analysis for thirteen (13) water samples. Included in the deliverable are the case narrative, raw data, LIMS reports, and QC reports.

Data are stored in the folder:

R5CRL\VOL2\Southeast Rockford Groundwater\4. MS\E210602 and E210603 14diox

If you have any questions, please feel free to contact me.



**ICF Inc ESAT Region 5**  
536 South Clark Street, Suite 734  
Chicago, IL 60605  
(312) 353-8303  
(312) 353-5814 (Fax)

**Date:** 8/23/2021

**Title:** ESAT Data Report for SOUTHEAST ROCKFORD GROUND WATER  
CONTAMINATION

**To:** Superfund, US EPA Region 5  
77 West Jackson Boulevard  
Chicago, IL 60604

**From:** Matt Kobus, Chemist  
kobus.matt@epa.gov  
ICF- ESAT Contract

The results reported in this document apply to the samples as received and relate only to the items tested. The data transmitted under this cover memo successfully passed the data review process and applicable Analytical Services Branch (ASB) laboratory Standard Operating Procedures. In accordance with the EPA QA/G-8 *Guidance on Environmental Data Verification and Data Validation*, ASB performs data verification on all the data generated internally. ASB does not perform data validation or quality assessment procedures.

This report was reviewed and the information provided herein accurately represents the analysis performed.

A handwritten signature in blue ink, appearing to read "Matt Kobus", is placed over a horizontal line.

*Please contact the analyst with any technical report issues, Amanda Wroble at (312)-353-0375 for sample project concerns, and Robert Snyder at (312)-353-9083 with data transmittal questions. Thank you.*

**Attached are Results for: SOUTHEAST ROCKFORD GROUND WATER CONTAMINATION**

**Analyses included in this report:**

1,4-Dioxane by SPE Low Level

Report Name: E210602,E210603 E\_Analysis\_v14\_ICF FINAL Aug 23 21 0907



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536 South Clark Street, Suite 734  
Chicago, IL 60605  
(312) 353-3593  
(312) 353-5814 (Fax)  
[www.ICF.com](http://www.ICF.com)

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77 West Jackson Boulevard  
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Project: SOUTHEAST ROCKFORD GROUND WATER CONTAMINATION  
Project Number: ILD981000417  
Project Manager: Michelle Kerr

Reported:  
Aug-23-21 09:07

## **CASE NARRATIVE E210602 and E210603**

### **GENERAL INFORMATION:**

ESAT was tasked with the analysis of a total of thirteen (13) samples for low level 1,4-dioxane using selected ion monitoring (SIM). Samples were split between two work orders seven (7) water samples (E210602-01 to E210602-07) and six (6) water samples (E210603-01 to E210603-06). E210602 were collected June 08, 2021 and received June 09, 2021, samples E210603 were collected June 09, 20201 and received June 10, 2021. All samples were received intact and within the  $\leq 6^{\circ}\text{C}$  preservation requirement.

pH of the laboratory-acidified samples was determined using indicator strips. All samples were properly preserved ( $\text{pH} \leq 2$ ) with sodium bisulfate. All sample extractions and analyses were completed within hold time criteria.

Samples were extracted in batch E21F007 and E21F008 by the manual solid phase extraction (SPE) method on June 28, 2021 and analyzed on June 30, 2021 and re-extracted in batches E21G004 (July 06) and E21G005 (July 07) and analyzed on July 07, 2021. All extractions and analyses were performed according to ASB SOP MS035 version 2 (Low-Level 1,4-Dioxane in Water [EPA 522/SW-846 8000D]), effective May 4, 2020. All samples were reviewed according to ASB SOP MS037 version 5 ([old GEN010] Organics Data Verification), effective April 30, 2019.

### **SAMPLE ANALYSIS & RESULTS:**

The data reported herein meets the Data Quality Objectives provided by the TOCOR referenced in TDF 5-68HE0520F0046-011. All requested compounds were analyzed and reported to the standard reporting limit. All project action limits listed in QAPP revision 2 ‘QAPP Worksheet #15a: Groundwater Project Action Limits and Laboratory-Specific Detection /Quantitation Limits’ were met.

Field QC samples are identified but are not qualified by the laboratory. Sample qualifications for field QC samples are left to the data user. The following samples were identified as field QC:

Trip Blank:  
E210602-01 (A11-MW501-210608)  
E210603-05 (A11-MW007-210609)  
Field Blank  
E210602-07 (A11-MW601-210608)



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536 South Clark Street, Suite 734  
Chicago, IL 60605  
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No qualifications are necessary for annual analyst demonstration of capability (ADoC) samples,

Batch QC samples may show analytes with values below the reporting limit; values below the reporting limit are flagged "J" in LIMS.

All samples are reported in µg/L in LIMS.

### **QUALITY CONTROLS:**

Quality control measures not specifically discussed in this narrative met all quality criteria stated in the SOPs.

#### **1. Instrument Performance Check (Tune):**

All samples were analyzed within 12 hours of the tune. No qualifications are necessary.

#### **2. Initial Calibration (ICAL):**

A 10-point calibration was performed for 1,4-dioxane by SIM analysis on June 24, 2021. All reported compounds used average response and were within the  $\leq 20\%$  RSD limit. All compounds have a calibration range from 5 µg/L to 1000 µg/L on column. No qualifications are necessary.

#### **3. Initial Calibration Verification (ICV):**

1,4-Dioxane was within the  $\pm 20\%$  limit for the ICV analyzed June 24, 2021. No qualifications are necessary.

#### **4. Continuing Calibration Verification (CCV):**

All reported compounds were within the  $\pm 20\%$  limit for all CCVs. No qualifications are necessary.

#### **5. Blank Results:**

Method blanks, E21F007-BLK1, E21G004-BLK1 and E21G005-BLK1 were non-detect for 1,4-dioxane. No qualifications are necessary.

#### **6. Internal Standard:**

Tetrahydrofuran-d8 was within acceptance limits in all reported samples. No qualifications are necessary.



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77 West Jackson Boulevard  
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Project: SOUTHEAST ROCKFORD GROUND WATER CONTAMINATION  
Project Number: ILD981000417  
Project Manager: Michelle Kerr

Reported:  
Aug-23-21 09:07

## 7. Surrogate Recovery:

Initial extracts had surrogate recoveries above the 64-109% recovery limits in most extracts. It was determined the spiking standards were bias high and all standards were reprepared. All samples except E210602-01 were re-extracted using the remaining volume. Sample E210602-03 (112%), E210603-05 (110%) and -06 (118%) were reported from the second extraction with high surrogate recovery. The associated analyte 1,4-dioxane was flagged "K" in the sample E210602-03. Samples E210603-05 and -06 were non-detect and did not require qualification.

## 8. Blank Spike / Blank Spike Duplicate (BS / BSD):

Blank spike E21G004-BSD1 recovery was 115% above the 70-106% limits. All associated samples with detects for 1,4-dioxane were qualified "K".

Blank Spike Samples E21G004-BS1 and E21G005-BS1/ BSD1 had all reported compounds within acceptance limits. No qualifications are necessary.

## 9. Method Reporting Limit (MRL):

Sample E21G004-MRL1 and E21G005-MRL1 are the reporting limit spikes. Results between the MDL and MRL are flagged "J". All results were within acceptance limits. No qualifications are necessary.

## 10. Matrix Spike / Matrix Spike Duplicate (MS / MSD):

MS / MSD analysis was not reported on these samples.

## MANUAL CALCULATION:

**Concentration for 1,4-dioxane in sample E200602-02, analyzed July 07, 2021 @ 17:44**

$$Cx = [Ax * CIS * Vt * Df] / [AIS * ARF * Vo]$$

Cx= Concentration of the compound to be measured ( $\mu\text{g/L}$  water)

Ax= Area of the primary characteristic ion for the compound to be measured

AIS= Area of the primary characteristic ion for the specific internal standard

CIS= Concentration of the specific internal standard ( $\mu\text{g/L}$ )

Vt= Volume of the concentrated extract in milliliters (mL)

Df= Dilution factor



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Project: SOUTHEAST ROCKFORD GROUND WATER CONTAMINATION  
Project Number: ILD981000417  
Project Manager: Michelle Kerr

**Reported:**  
Aug-23-21 09:07

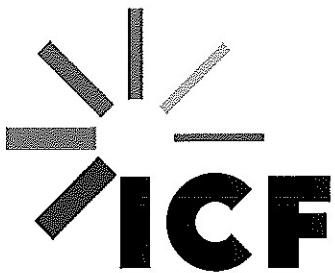
ARF= Average response factor for the compound from the calibration curve

Vo= Volume of sample extracted in milliliters (mL)

$$\mu\text{g/L} = [109201 * 50 * 10 * 1] / [35563 * 0.848 * 244]$$

Calculated concentration = 7.420148 μg/L, which rounds to 7.42 μg/L.

The value reported in LIMS is 7.42 μg/L.



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WORK ORDER

Printed: 6/10/2021 8:46:55AM

E210602

ICF- ESAT Contract

Client: Superfund, US EPA Region 5

Project Manager: Bruce Gallant

Project: SOUTHEAST ROCKFORD GROUND WATER C

Project Number: ILD981000417

Report To:

Michelle Kerr  
Superfund, US EPA Region 5

77 West Jackson Boulevard  
Chicago, IL 60604

Phone: (312) 353-2310  
Fax: (312) 886-6171

Date Due: Jul-09-21 15:00 (30 day TAT)

Received By: Matt Kobus

Date Received: Jun-09-21 15:43

Logged In By: Matt Kobus

Date Logged In: Jun-09-21 16:05

Samples Received at:	0.9°C
Custody Seals	Yes
Containers Intact	Yes
COC/Labels Agree	Yes
Preservation Confirmed	Yes

Analysis	Due	TAT	Expires	Comments
E210602-01 A11-MW501-210608 [Water] Sampled Jun-09-21 06:19 (GMT-06:00) Central Time (US & Canada)				TB
1,4-Dioxane by SPE Low Level	Jul-09-21 12:00	30	Jul-07-21 06:19	
E210602-02 A11-MW130A-210608 [Water] Sampled Jun-08-21 08:05 (GMT-06:00) Central Time (US & Canada)				A11-MW130A
1,4-Dioxane by SPE Low Level	Jul-09-21 12:00	30	Jul-06-21 08:05	
E210602-03 A11-MW006-210608 [Water] Sampled Jun-08-21 10:08 (GMT-06:00) Central Time (US & Canada)				A11-MW006
1,4-Dioxane by SPE Low Level	Jul-09-21 12:00	30	Jul-06-21 10:08	
E210602-04 A11-MW005-210608 [Water] Sampled Jun-08-21 00:00 (GMT-06:00) Central Time (US & Canada)				A11-MW005
1,4-Dioxane by SPE Low Level	Jul-09-21 12:00	30	Jul-06-21 00:00	
E210602-05 A11-MW004B-210608 [Water] Sampled Jun-08-21 14:20 (GMT-06:00) Central Time (US & Canada)				A11-MW004B
1,4-Dioxane by SPE Low Level	Jul-09-21 12:00	30	Jul-06-21 14:20	
E210602-06 A11-MW001-210608 [Water] Sampled Jun-08-21 00:00 (GMT-06:00) Central Time (US & Canada)				A11-MW001
1,4-Dioxane by SPE Low Level	Jul-09-21 12:00	30	Jul-06-21 00:00	

## WORK ORDER

Printed: 6/10/2021 8:46:55AM

**E210602****ICF- ESAT Contract**

Client: Superfund, US EPA Region 5

Project Manager: Bruce Gallant

Project: SOUTHEAST ROCKFORD GROUND WATER C

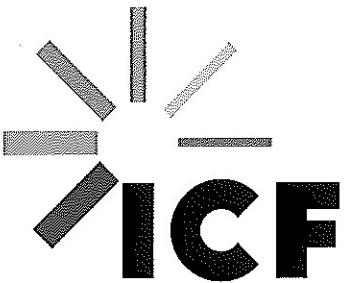
Project Number: ILD981000417

Analysis	Due	TAT	Expires	Comments
E210602-07 A11-MW601 210608 [Water] Sampled Jun-08-21 16:10 (GMT-06:00) Central Time (US & Canada)				FB
1,4-Dioxane by SPE Low Level	Jul-09-21 12:00	30	Jul-06-21 16:10	

Reviewed By

6/10/2021  
Date

Page 2 of 2



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WORK ORDER

Printed: 6/14/2021 11:05:59AM

E210603

ICF- ESAT Contract

Client: Superfund, US EPA Region 5  
Project: SOUTHEAST ROCKFORD GROUND WATER C

Project Manager: Bruce Gallant  
Project Number: ILD981000417

Report To:

Michelle Kerr  
Superfund, US EPA Region 5

77 West Jackson Boulevard  
Chicago, IL 60604

Phone: (312) 353-2310  
Fax: (312) 886-6171

Date Due: Jul-10-21 15:00 (30 day TAT)

Received By: Matt Kobus

Date Received: Jun-10-21 16:00

Logged In By: Matt Kobus

Date Logged In: Jun-10-21 16:30

Samples Received at: 2.4°C  
Custody Seals Yes  
Containers Intact Yes  
COC/Labels Agree Yes  
Preservation Confirmed Yes

Analysis	Due	TAT	Expires	Comments
E210603-01 A11-MW002-210609 [Water] Sampled Jun-09-21 12:20 (GMT-06:00) Central Time (US & Canada)				A11-MW002
1,4-Dioxane by SPE Low Level	Jul-11-21 12:00	30	Jul-07-21 12:20	
E210603-02 A11-MW003-210609 [Water] Sampled Jun-09-21 07:40 (GMT-06:00) Central Time (US & Canada)				A11-MW003
1,4-Dioxane by SPE Low Level	Jul-10-21 12:00	30	Jul-07-21 07:40	
E210603-03 A11-MW004A-210609 [Water] Sampled Jun-09-21 14:30 (GMT-06:00) Central Time (US & Canada)				A11-MW004A
1,4-Dioxane by SPE Low Level	Jul-10-21 12:00	30	Jul-07-21 14:30	
E210603-04 A11-MW007-210609 [Water] Sampled Jun-09-21 09:35 (GMT-06:00) Central Time (US & Canada)				A11-MW004A
1,4-Dioxane by SPE Low Level	Jul-10-21 12:00	30	Jul-07-21 09:35	
E210603-05 A11-MW502-210609 [Water] Sampled Jun-09-21 06:00 (GMT-06:00) Central Time (US & Canada)				A11-MW502
1,4-Dioxane by SPE Low Level	Jul-10-21 12:00	30	Jul-07-21 06:00	
E210603-06 A11-MW701-210609 [Water] Sampled Jun-09-21 09:50 (GMT-06:00) Central Time (US & Canada)				A11-MW701
1,4-Dioxane by SPE Low Level	Jul-10-21 12:00	30	Jul-07-21 09:50	

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[www.ICF.com](http://www.ICF.com)

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77 West Jackson Boulevard  
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Project Number: ILD981000417  
Project Manager: Michelle Kerr

Reported:  
Aug-23-21 09:07

**1,4-Dioxane by GC-MS**  
**ICF- ESAT Contract**

**A11-MW501-210608 (E210602-01)**

**Matrix: Water**

**Sampled: Jun-09-21 06:19**

**Received: Jun-09-21 15:43**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
<b>1,4-Dioxane</b>	<b>U</b>			0.205	ug/L	1	E21F007	Jun-28-21	Jun-30-21
Surrogate	Result			%REC		%REC Limits	Batch	Prepared	Analyzed
<i>1,4-Dioxane-d8</i>	1.05			102%		64-109	"	"	"

**A11-MW130A-210608 (E210602-02RE1)**

**Matrix: Water**

**Sampled: Jun-08-21 08:05**

**Received: Jun-09-21 15:43**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
<b>1,4-Dioxane</b>	<b>7.42</b>	K		0.205	ug/L	1	E21G004	Jul-06-21	Jul-07-21
Surrogate	Result			%REC		%REC Limits	Batch	Prepared	Analyzed
<i>1,4-Dioxane-d8</i>	1.12			109%		64-109	"	"	"

**A11-MW006-210608 (E210602-03RE1)**

**Matrix: Water**

**Sampled: Jun-08-21 10:08**

**Received: Jun-09-21 15:43**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
<b>1,4-Dioxane</b>	<b>5.91</b>	K		0.212	ug/L	1	E21G004	Jul-06-21	Jul-07-21
Surrogate	Result			%REC		%REC Limits	Batch	Prepared	Analyzed
<i>1,4-Dioxane-d8</i>	1.19	K, Q		112%		64-109	"	"	"

**A11-MW005-210608 (E210602-04RE1)**

**Matrix: Water**

**Sampled: Jun-08-21 10:45**

**Received: Jun-09-21 15:43**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
<b>1,4-Dioxane</b>	<b>6.29</b>	K		0.202	ug/L	1	E21G004	Jul-06-21	Jul-07-21
Surrogate	Result			%REC		%REC Limits	Batch	Prepared	Analyzed
<i>1,4-Dioxane-d8</i>	0.980			97.2%		64-109	"	"	"

**A11-MW004B-210608 (E210602-05RE1)**

**Matrix: Water**

**Sampled: Jun-08-21 14:20**

**Received: Jun-09-21 15:43**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
<b>1,4-Dioxane</b>	<b>8.74</b>	K		0.195	ug/L	1	E21G004	Jul-06-21	Jul-07-21
Surrogate	Result			%REC		%REC Limits	Batch	Prepared	Analyzed
<i>1,4-Dioxane-d8</i>	1.00			103%		64-109	"	"	"



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77 West Jackson Boulevard  
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Project Number: ILD981000417  
Project Manager: Michelle Kerr

Reported:  
Aug-23-21 09:07

**1,4-Dioxane by GC-MS**  
**ICF- ESAT Contract**

**A11-MW001-210608 (E210602-06RE1)**

**Matrix: Water      Sampled: Jun-08-21 14:40      Received: Jun-09-21 15:43**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
<b>1,4-Dioxane</b>	<b>10.1</b>	K		0.194	ug/L	1	E21G004	Jul-06-21	Jul-07-21
Surrogate	Result			%REC			%REC Limits	Batch	Prepared
<i>1,4-Dioxane-d8</i>	0.969			100%		64-109	"	"	"

**A11-MW601 210608 (E210602-07RE1)**

**Matrix: Water      Sampled: Jun-08-21 16:10      Received: Jun-09-21 15:43**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
<b>1,4-Dioxane</b>	<b>U</b>			0.197	ug/L	1	E21G004	Jul-06-21	Jul-07-21
Surrogate	Result			%REC			%REC Limits	Batch	Prepared
<i>1,4-Dioxane-d8</i>	1.06			108%		64-109	"	"	"

**A11-MW002-210609 (E210603-01RE1)**

**Matrix: Water      Sampled: Jun-09-21 12:20      Received: Jun-10-21 16:00**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
<b>1,4-Dioxane</b>	<b>0.250</b>			0.197	ug/L	1	E21G005	Jul-07-21	Jul-07-21
Surrogate	Result			%REC			%REC Limits	Batch	Prepared
<i>1,4-Dioxane-d8</i>	0.893			90.8%		64-109	"	"	"

**A11-MW003-210609 (E210603-02RE1)**

**Matrix: Water      Sampled: Jun-09-21 07:40      Received: Jun-10-21 16:00**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
<b>1,4-Dioxane</b>	<b>6.42</b>			0.195	ug/L	1	E21G005	Jul-07-21	Jul-07-21
Surrogate	Result			%REC			%REC Limits	Batch	Prepared
<i>1,4-Dioxane-d8</i>	0.949			97.2%		64-109	"	"	"

**A11-MW004A-210609 (E210603-03RE1)**

**Matrix: Water      Sampled: Jun-09-21 14:30      Received: Jun-10-21 16:00**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
<b>1,4-Dioxane</b>	<b>0.480</b>			0.195	ug/L	1	E21G005	Jul-07-21	Jul-07-21
Surrogate	Result			%REC			%REC Limits	Batch	Prepared
<i>1,4-Dioxane-d8</i>	0.941			96.4%		64-109	"	"	"



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536 South Clark Street, Suite 734  
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(312) 353-3593  
(312) 353-5814 (Fax)  
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Chicago IL, 60604

Project: SOUTHEAST ROCKFORD GROUND WATER CONTAMINATION  
Project Number: ILD981000417  
Project Manager: Michelle Kerr

Reported:  
Aug-23-21 09:07

**1,4-Dioxane by GC-MS**  
**ICF- ESAT Contract**

A11-MW007-210609 (E210603-04RE1)

**Matrix: Water      Sampled: Jun-09-21 09:35      Received: Jun-10-21 16:00**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
1,4-Dioxane	U			0.195	ug/L	1	E21G005	Jul-07-21	Jul-07-21
Surrogate	Result			%REC			%REC Limits	Batch	Prepared
1,4-Dioxane-d8	0.992			102%		64-109	"	"	"

A11-MW502-210609 (E210603-05RE1)

**Matrix: Water      Sampled: Jun-09-21 06:00      Received: Jun-10-21 16:00**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
1,4-Dioxane	U	K		0.194	ug/L	1	E21G005	Jul-07-21	Jul-07-21
Surrogate	Result			%REC			%REC Limits	Batch	Prepared
1,4-Dioxane-d8	1.06	K, Q		110%		64-109	"	"	"

A11-MW701-210609 (E210603-06RE1)

**Matrix: Water      Sampled: Jun-09-21 09:50      Received: Jun-10-21 16:00**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
1,4-Dioxane	U	K		0.195	ug/L	1	E21G005	Jul-07-21	Jul-07-21
Surrogate	Result			%REC			%REC Limits	Batch	Prepared
1,4-Dioxane-d8	1.15	K, Q		118%		64-109	"	"	"



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Chicago IL, 60604

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Project Number: ILD981000417  
Project Manager: Michelle Kerr

Reported:  
Aug-23-21 09:07

**1,4-Dioxane by GC-MS - Quality Control**  
**ICF- ESAT Contract**

**Batch E21F007 - EPA 522**

**Blank (E21F007-BLK1)**

**Prepared: Jun-28-21 Analyzed: Jun-30-21**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
1,4-Dioxane	U			0.200	ug/L						
Surrogate: 1,4-Dioxane-d8	1.05				"	1.00		105%	64-109		

**LCS (E21F007-BS1)**

**Prepared: Jun-28-21 Analyzed: Jun-30-21**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
1,4-Dioxane	1.03			0.200	ug/L	1.00		103%	70-106		
Surrogate: 1,4-Dioxane-d8	1.12	K, Q			"	1.00		112%	64-109		

**LCS Dup (E21F007-BSD1)**

**Prepared: Jun-28-21 Analyzed: Jun-30-21**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
1,4-Dioxane	0.952			0.200	ug/L	1.00		95.2%	70-106	7.52	17
Surrogate: 1,4-Dioxane-d8	1.02				"	1.00		102%	64-109		

**MRL Check (E21F007-MRL1)**

**Prepared: Jun-28-21 Analyzed: Jun-30-21**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
1,4-Dioxane	0.189	J		0.200	ug/L	0.200		94.6%	49-131		
Surrogate: 1,4-Dioxane-d8	0.982				"	1.00		98.2%	64-109		

**Matrix Spike (E21F007-MS1)**

**Source: E210607-01**

**Prepared: Jun-28-21 Analyzed: Jun-30-21**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
1,4-Dioxane	1.12	K		0.207	ug/L	1.03	U	108%	64-112		
Surrogate: 1,4-Dioxane-d8	1.09				"	1.03		106%	64-109		

**Matrix Spike Dup (E21F007-MSD1)**

**Source: E210607-01**

**Prepared: Jun-28-21 Analyzed: Jun-30-21**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
1,4-Dioxane	0.924	K, Q		0.205	ug/L	1.02	U	90.2%	64-112	18.2	12
Surrogate: 1,4-Dioxane-d8	1.17	K, Q			"	1.02		114%	64-109		

**Batch E21G004 - EPA 522**



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536 South Clark Street, Suite 734  
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(312) 353-5814 (Fax)  
[www.ICF.com](http://www.ICF.com)

Superfund, US EPA Region 5  
77 West Jackson Boulevard  
Chicago IL, 60604

Project: SOUTHEAST ROCKFORD GROUND WATER CONTAMINATION  
Project Number: ILD981000417  
Project Manager: Michelle Kerr

Reported:  
Aug-23-21 09:07

**1,4-Dioxane by GC-MS - Quality Control**  
**ICF- ESAT Contract**

**Batch E21G004 - EPA 522**

Blank (E21G004-BLK1)										
Analyte	Result	Flags / Qualifiers	MDL	Reporting		Spike Level	Source Result	%REC	%REC Limits	RPD RPD Limit
				Limit	Units					
1,4-Dioxane	U			0.200	ug/L					
Surrogate: 1,4-Dioxane-d8	1.07			"	1.00			107%	64-109	

LCS (E21G004-BS1)										
Analyte	Result	Flags / Qualifiers	MDL	Reporting		Spike Level	Source Result	%REC	%REC Limits	RPD RPD Limit
				Limit	Units					
1,4-Dioxane	0.990			0.200	ug/L	1.00		99.0%	70-106	
Surrogate: 1,4-Dioxane-d8	0.973			"	1.00			97.3%	64-109	

LCS Dup (E21G004-BSD1)										
Analyte	Result	Flags / Qualifiers	MDL	Reporting		Spike Level	Source Result	%REC	%REC Limits	RPD RPD Limit
				Limit	Units					
1,4-Dioxane	1.15	K, Q		0.200	ug/L	1.00		115%	70-106	15.0 17
Surrogate: 1,4-Dioxane-d8	1.03			"	1.00			103%	64-109	

MRL Check (E21G004-MRL1)										
Analyte	Result	Flags / Qualifiers	MDL	Reporting		Spike Level	Source Result	%REC	%REC Limits	RPD RPD Limit
				Limit	Units					
1,4-Dioxane	0.188	J		0.200	ug/L	0.200		94.2%	49-131	
Surrogate: 1,4-Dioxane-d8	1.02			"	1.00			102%	64-109	

Batch E21G005 - EPA 522										
Blank (E21G005-BLK1)										
Analyte	Result	Flags / Qualifiers	MDL	Reporting		Spike Level	Source Result	%REC	%REC Limits	RPD RPD Limit
				Limit	Units					
1,4-Dioxane	U			0.200	ug/L					
Surrogate: 1,4-Dioxane-d8	1.02			"	1.00			102%	64-109	

LCS (E21G005-BS1)										
Analyte	Result	Flags / Qualifiers	MDL	Reporting		Spike Level	Source Result	%REC	%REC Limits	RPD RPD Limit
				Limit	Units					
1,4-Dioxane	0.931			0.200	ug/L	1.00		93.1%	70-106	
Surrogate: 1,4-Dioxane-d8	0.992			"	1.00			99.2%	64-109	



ICF Inc ESAT Region 5  
536 South Clark Street, Suite 734  
Chicago, IL 60605  
(312) 353-3593  
(312) 353-5814 (Fax)  
[www.ICF.com](http://www.ICF.com)

Superfund, US EPA Region 5  
77 West Jackson Boulevard  
Chicago IL, 60604

Project: SOUTHEAST ROCKFORD GROUND WATER CONTAMINATION  
Project Number: ILD981000417  
Project Manager: Michelle Kerr

Reported:  
Aug-23-21 09:07

**1,4-Dioxane by GC-MS - Quality Control**  
**ICF- ESAT Contract**

**Batch E21G005 - EPA 522**

**LCS Dup (E21G005-BSD1)**

Analyte	Result	Flags / Qualifiers	MDL	Prepared & Analyzed: Jul-07-21					%REC Limits	RPD	Limit
				Reporting Limit	Units	Spike Level	Source Result	%REC			
1,4-Dioxane	0.888			0.200	ug/L	1.00		88.8%	70-106	4.75	17
Surrogate: 1,4-Dioxane-d8	0.913				"	1.00		91.3%	64-109		

**MRL Check (E21G005-MRL1)**

Analyte	Result	Flags / Qualifiers	MDL	Prepared & Analyzed: Jul-07-21					%REC Limits	RPD	Limit
				Reporting Limit	Units	Spike Level	Source Result	%REC			
1,4-Dioxane	0.170	J		0.200	ug/L	0.200		85.2%	49-131		
Surrogate: 1,4-Dioxane-d8	0.998				"	1.00		99.8%	64-109		



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Project: SOUTHEAST ROCKFORD GROUND WATER CONTAMINATION  
Project Number: ILD981000417  
Project Manager: Michelle Kerr

**Reported:**  
Aug-23-21 09:07

#### Notes and Definitions

- K The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
- J The identification of the analyte is acceptable; the reported value is an estimate.
- U Not Detected
- NR Not Reported
- Q QC limit Exceeded

E210602

## CHAIN OF CUSTODY RECORD

USEPA  
Date Shipped: 6/8/2021  
Carrier Name: FedEx  
Airbill No: 7739 1504 8452

## SOUTHEAST ROCKFORD GROUNDWATER/L

Cooler #: 1 of 2  
Contact Phone: 312-546-5000

No: 5-060421-152103-0097  
Cooler #: 1 of 2  
Lab: Analytical Services Branch- Region 5  
Lab Phone: 312-353-9083

Lab #	Sample #	Location	CLP Sample #	Analyses	Matrix	Collection Method	Sample Type	Collect ed	Sample Time	Number b Co nt	Contain e m r	Preser vative	Storage e	Last b QC	Sampler
A11-MW501-210608	TB			CLP trace TCL Volatiles	Water	Grab	Trip Blank	1	6/8/2022 0619	3	40 ml VOA	HCl		N	John Grabs
A11-MW130A-210608	A11-MW130A			CLP trace TCL Volatiles	Ground Water	Grab	Field Sample	1	6/8/2022 0805	3	40 ml VOA	HCl		N	John Grabs
A11-MW006-210608	A11-MW006			CLP trace TCL Volatiles	Ground Water	Grab	Field Sample	1	6/8/2022 1008	3	40 ml VOA	HCl		N	John Grabs
A11-MW005-210608	A11-MW005			CLP trace TCL Volatiles	Ground Water	Grab	Spike	—	6/8/2022 1045	5	40 ml VOA	HCl		Y	John Grabs
A11-MW004B-210608	A11-MW004B			CLP trace TCL Volatiles	Ground Water	Grab	Field Sample	1	6/8/2022 1420	3	40 ml VOA	HCl		N	John Grabs
A11-MW001-210608	A11-MW001			CLP trace TCL Volatiles	Ground Water	Grab	Field Sample	1	6/8/2022 1440	3	40 ml VOA	HCl		N	John Grabs
A11-MW601-FB	FB			CLP trace TCL Volatiles	Water	Grab	Field Blank	1	6/8/2022 1610	3	40 ml VOA	HCl		N	John Grabs
A11-MW501-210608	TB			1,4 Dioxane	Water	Grab	Trip Blank	1	6/8/2022 0619	2	250 mL Amber	NaHSO4		N	John Grabs

Special Instructions: Please return coolers using enclosed FEDEX Airbills. Use All - MW505 for MS/M SD

Cooler Custody Seals: No. 65332 and No. 65333

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Item/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
Ship Samples	Matt Smith	6/8/21 13:00	CD Beach EPA PS	6/9/21 2:45pm	
			East Anthony	6/9/21 3:43 pm	



E210603

USEPA

Date Shipped: 6/9/2021

Carrier Name: FedEx

Airbill No: 7739 1522 3101

## CHAIN OF CUSTODY RECORD

## SOUTHEAST ROCKFORD GROUNDWATER/II

Cooler #: 1 of 1

Contact Phone: 312-546-5000

No: 5-060421-153034-0099

Cooler #: 1 of 1

Lab: Analytical Services Branch- Region 5  
Lab Phone: 312-353-9083

Lab #	Sample #	Location	CLP Sample #	Analyses	Matrix	Collect ion Metho d	Sampl e Type	Collect ed	Samp le Time	Nu mber	Contain e	Preser vative	Storag e	La b QC	Sampler
A11-MV002-210609	A11-MV002			Alk,Sulfate,Nitrate	Ground Water	Grab	Field Sample	1	1220	1	500 mL Poly	None	N	N	John Grabs
A11-MV003-210609	A11-MV003			Alk,Sulfate,Nitrate	Ground Water	Grab	Field Sample	1	0740	1	500 mL Poly	None	N	N	John Grabs
A11-MV004A-210609	A11-MV004A			Alk,Sulfate,Nitrate	Ground Water	Grab	Field Sample	1	1430	1	500 mL Poly	None	N	N	John Grabs
A11-MV007-210609	A11-MV007			Alk,Sulfate,Nitrate	Ground Water	Grab	Field Sample	1	0935	1	500 mL Poly	None	N	N	John Grabs
A11-MV701-210609	A11-MV701	701	701	Alk,Sulfate,Nitrate	Ground Water	Grab	Field Duplicate	1	0950	1	500 mL Poly	None	N	N	John Grabs
A11-MV002-210609	A11-MV002			CLP trace TCL Volatiles	Ground Water	Grab	Field Sample	1	1220	3	40 ml VOA	HCl	N	N	John Grabs
A11-MV002-210609	A11-MV002			1,4 Dioxane	Ground Water	Grab	Field Sample	1	1220	2	250 mL Amber	NaHSO 4	N	N	John Grabs
A11-MV003-210609	A11-MV003			CLP trace TCL Volatiles	Ground Water	Grab	Field Sample	1	0745	3	40 ml VOA	HCl	N	N	John Grabs
A11-MV003-210609	A11-MV003			1,4 Dioxane	Ground Water	Grab	Field Sample	1	0740	2	250 mL Amber	NaHSO 4	N	N	John Grabs

Special Instructions: Please return coolers using enclosed FEDEX Airbills.

Cooler Custody Seals: No. 65336 and No. 65337

SAMPLES TRANSFERRED FROM	
CHAIN OF CUSTODY #	

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
Ship samples	Mark Smith	6/9/21, 1705	John Grabs	6/9/21, 1440	
				16:30	10 Jun 2021

Z196Q16

USEPA

Date Shipped: 6/9/2021

Carrier Name: FedEx

Airbill No: 7739 1522 3101

## CHAIN OF CUSTODY RECORD

SOUTHEAST ROCKFORD GROUNDWATER/JL

Cooler #: 1 of 1

Contact Phone: 312-546-5000

No: 5-060421-153034-0099

Cooler #: 1 of 1

Lab: Analytical Services Branch- Region 5

Lab Phone: 312-353-9083

Lab #	Sample #	Location	CLP Sample #	Analyses	Matrix	Collect ion Metho d	Sample Type	Collect ed	Sample Time	Num b Co nt	Containme nt	Preser vative	Storage e	La b QC	Sampler
A11-MW004A-210609	A11-MW004A			CLP trace TCL Volatiles	Ground Water	Grab	Field Sample	1	6/9/2021 1430	3	40 ml VOA	HCl		N	John Grabs
A11-MW004A-210609	A11-MW004A			1,4 Dioxane	Ground Water	Grab	Field Sample	1	6/9/2021 1430	2	250 mL Amber	HCl		N	John Grabs
A11-MW007-210609	A11-MW007			CLP trace TCL Volatiles	Ground Water	Grab	Field Sample	1	6/9/2021 0935	3	40 ml VOA	NahSO <sub>4</sub>		N	John Grabs
A11-MW007-210609	A11-MW007			1,4 Dioxane	Ground Water	Grab	Field Sample	1	6/9/2021 0935	2	250 mL Amber	HCl		N	John Grabs
A11-MW007-210609	TB			CLP trace TCL Volatiles	Water	Grab	Trip Blank	1	6/9/2021 0630	3	40 ml VOA	NahSO <sub>4</sub>		N	John Grabs
A11-MW007-210609	TB			1,4 Dioxane	Water	Grab	Trip Blank	1	6/9/2021 0630	2	250 mL Amber	HCl		N	John Grabs
A11-MW007-210609	A11-MW007			CLP trace TCL Volatiles	Ground Water	Grab	Field Duplicate	1	6/9/2021 0950	3	40 ml VOA	NahSO <sub>4</sub>		N	John Grabs
A11-MW007-210609	A11-MW007			1,4 Dioxane	Ground Water	Grab	Field Duplicate	1	6/9/2021 0950	2	250 mL Amber	HCl		N	John Grabs

Special Instructions: Please return coolers using enclosed FEDEX Airbill.

Cooler Custody Seals: No. 65336 and No. 65337

SAMPLES TRANSFERRED FROM  
CHAIN OF CUSTODY #

Item/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
Ship Samples	Mark H. Smith	6/9/21 1302	John Grabs	10/30/21 1400	

21060916



## **GCMS Tunes, Run Logs, Internal Standards, Bench Sheets, & Sequence Logs**

Starting sequence Thu Jun 24 08:37:25 2021

Instrument Name: GCMS#16

Sequence File: D:\MassHunter\GCMS\1\sequence\210624.sequence.xml

Comment:

Operator:

Data Path: D:\MassHunter\GCMS\1\data\210624 mak\

Line	Type	Vials	DataFile	Sample Name
-----				
Acquisition Method Path: D:\MassHunter\GCMS\1\methods\				
Acquisition Method File: 14Dioxane_200522_MAK.M				
1)	Sample	1	GCMS_210624001	DCM
2)	Sample	1	GCMS_210624002	DCM
Acquisition Method Path: D:\MassHunter\GCMS\1\methods\				
Acquisition Method File: Dioxane_Scan_191120_CR.M				
3)	Sample	2	GCMS_210624003	DCM
4)	Sample	2	GCMS_210624004	BFB Tune 1 ppm
5)	Pause:	' '		

Sequence paused Thu Jun 24 09:56:35 2021

D:\MassHunter\GCMS\1\data\210624 mak\2021 Jun 24 0837 Sequence Log .LOG

Starting sequence Thu Jun 24 10:22:38 2021

Instrument Name: GCMS#16

Sequence File: D:\MassHunter\GCMS\1\sequence\210624.sequence.xml

Comment:

Operator:

Data Path: D:\MassHunter\GCMS\1\data\210624 mak\

Line	Type	Vials	DataFile	Sample Name
-----				
	Acquisition Method Path:	D:\MassHunter\GCMS\1\methods\		
	Acquisition Method File:	14Dioxane_200522_MAK.M		
6)	Sample	9	GCMS_210624005	Open CCV 25 ppb
7)	Sample	4	GCMS_210624006	CAL BLK
8)	Sample	5	GCMS_210624007	ICAL L1 5 ppb
9)	Sample	6	GCMS_210624008	ICAL L2 10 ppb
10)	Sample	7	GCMS_210624009	ICAL L3 15 ppb
11)	Sample	8	GCMS_210624010	ICAL L4 20 ppb
12)	Sample	9	GCMS_210624011	ICAL L5 25 ppb
13)	Sample	10	GCMS_210624012	ICAL L6 50 ppb
14)	Sample	11	GCMS_210624013	ICAL L7 100 ppb
15)	Sample	12	GCMS_210624014	ICAL L8 250 ppb
16)	Sample	13	GCMS_210624015	ICAL L9 500 ppb
17)	Sample	14	GCMS_210624016	ICAL L10 1000 ppb
18)	Sample	4	GCMS_210624017	CAL BLK
19)	Sample	15	GCMS_210624018	ICV 25ppb

Sequence completed Thu Jun 24 15:12:44 2021

D:\MassHunter\GCMS\1\data\210624 mak\2021 Jun 24 1022 Sequence Log .LOG

Starting sequence Wed Jun 30 16:59:04 2021

Instrument Name: GCMS#16

Sequence File: D:\MassHunter\GCMS\1\sequence\210630A.sequence.xml

Comment:

Operator:

Data Path: D:\MassHunter\GCMS\1\data\210630Amak\

Line	Type	Vials	DataFile	Sample Name
-----				
Acquisition Method Path: D:\MassHunter\GCMS\1\methods\				
Acquisition Method File: Dioxane_Scan_191120_CR.M				
3)	Sample	2	GCMS_210630003	DCM
4)	Sample	2	GCMS_210630004	BFB Tune 1 ppm
Acquisition Method Path: D:\MassHunter\GCMS\1\methods\				
Acquisition Method File: 14Dioxane_200522 MAK.M				

Wed Jun 30 17:37:44 2021

Fatal sequence error detected.

User aborted run

D:\MassHunter\GCMS\1\data\210630Amak\2021 Jun 30 1659 Sequence Log .LOG

Starting sequence Wed Jun 30 17:43:38 2021

Instrument Name: GCMS#16

Sequence File: D:\MassHunter\GCMS\1\sequence\210630A.sequence.xml

Comment:

Operator:

Data Path: D:\MassHunter\GCMS\1\data\210630Amak\

Line	Type	Vials	DataFile	Sample Name
-----				
				Acquisition Method Path: D:\MassHunter\GCMS\1\methods\
				Acquisition Method File: 14Dioxane_200522_MAK.M
5)	Sample	3	GCMS_210630005	Open CCV 25 ppb
Sequence Table edit performed Wed Jun 30 18:01:38 2021				
6)	Sample	4	GCMS_210630006	CAL BLK
Sequence Table edit performed Wed Jun 30 18:22:04 2021				
7)	Sample	5	GCMS_210630007	E21F007-BLK1
8)	Sample	6	GCMS_210630008	E21F007-MRL1
9)	Sample	7	GCMS_210630009	E21F007-BS1
10)	Sample	8	GCMS_210630010	E21F007-BSD1
11)	Sample	9	GCMS_210630011	E210607-01
12)	Sample	10	GCMS_210630012	E21F007-MS1
Comment: E210607-01 MS				
13)	Sample	11	GCMS_210630013	E21F007-MSD1
Comment: E210607-01 MSD				
14)	Sample	12	GCMS_210630014	E210602-01
15)	Sample	13	GCMS_210630015	E210602-02
16)	Sample	14	GCMS_210630016	E210602-03
17)	Sample	15	GCMS_210630017	E210602-05
18)	Sample	16	GCMS_210630018	E210602-06
19)	Sample	17	GCMS_210630019	E210602-07
20)	Sample	18	GCMS_210630020	E210603-01
21)	Sample	19	GCMS_210630021	E210603-02
22)	Sample	20	GCMS_210630022	E210603-03
23)	Sample	21	GCMS_210630023	E210603-04
24)	Sample	22	GCMS_210630024	E210603-05
25)	Sample	23	GCMS_210630025	E210603-06
Acquisition Method Path: D:\MassHunter\GCMS\1\methods\				
Acquisition Method File: Dioxane_Scan_191120_CR.M				
26)	Sample	2	GCMS_210630026	BFB Tune 1 ppm
Acquisition Method Path: D:\MassHunter\GCMS\1\methods\				
Acquisition Method File: 14Dioxane_200522_MAK.M				
27)	Sample	3	GCMS_210630027	CCV 25 ppb
28)	Sample	4	GCMS_210630028	CAL BLK
29)	Sample	24	GCMS_210630029	E21F008-BLK1
30)	Sample	25	GCMS_210630030	E21F008-MRL1
31)	Sample	26	GCMS_210630031	E21F008-BS1
32)	Sample	27	GCMS_210630032	E21F008-BSD1

33) Sample	28	GCMS_210630033	E210602-04
34) Sample	29	GCMS_210630034	E21F008-MS1
		Comment: E210602-04 MS	
35) Sample	30	GCMS_210630035	E21F008-MSD1
		Comment: E210602-04 MSD	
36) Sample	31	GCMS_210630036	E210606-01
37) Sample	32	GCMS_210630037	E210606-02
38) Sample	33	GCMS_210630038	E210606-03
39) Sample	34	GCMS_210630039	E210606-04
40) Sample	35	GCMS_210630040	E210606-05
41) Sample	36	GCMS_210630041	E210606-06
42) Sample	37	GCMS_210630042	E210606-07
43) Sample	38	GCMS_210630043	E210606-08
44) Sample	39	GCMS_210630044	E210606-09
45) Sample	40	GCMS_210630045	E210606-10
46) Sample	41	GCMS_210630046	E210606-11
47) Sample	42	GCMS_210630047	E210606-12
48) Sample	43	GCMS_210630048	E210606-13
Sequence Table edit performed Thu Jul 01 09:04:13 2021			
49) Sample	4	GCMS_210630049	CAL BLK
50) Sample	44	GCMS_210630050	E210606-14
51) Sample	45	GCMS_210630051	E210606-15
52) Sample	46	GCMS_210630052	E210606-16
53) Sample	4	GCMS_210630053	CAL BLK
54) Sample	3	GCMS_210630054	CCV 25 ppb

Sequence completed Thu Jul 01 11:05:29 2021

D:\MassHunter\GCMS\1\data\210630Amak\2021 Jun 30 1743 Sequence Log .LOG

Starting sequence Tue Jul 06 12:04:23 2021

Instrument Name: GCMS#16

Sequence File: D:\MassHunter\GCMS\1\sequence\210706tst.sequence.xml

Comment:

Operator:

Data Path: D:\MassHunter\GCMS\1\data\210630Amak\

Line	Type	Vials	DataFile	Sample Name
-----				
Acquisition Method Path: D:\MassHunter\GCMS\1\methods\				
Acquisition Method File: 14Dioxane_200522_MAK.M				
1)	Sample	1	GCMS_210706001	DCM
Acquisition Method Path: D:\MassHunter\GCMS\1\methods\				
Acquisition Method File: Dioxane_Scan_191120_CR.M				
2)	Sample	2	GCMS_210706002	DCM
3)	Sample	2	GCMS_210706003	BFB Tune 1 ppm
Acquisition Method Path: D:\MassHunter\GCMS\1\methods\				
Acquisition Method File: 14Dioxane_200522_MAK.M				
4)	Sample	3	GCMS_210706004	Open CCV 25 ppb

Tue Jul 06 13:51:44 2021

Fatal sequence error detected.

User aborted run

D:\MassHunter\GCMS\1\data\210630Amak\2021 Jul 06 1204 Sequence Log .LOG

Starting sequence Tue Jul 06 13:53:05 2021

Instrument Name: GCMS#16

Sequence File: D:\MassHunter\GCMS\1\sequence\210706tst.sequence.xml

Comment:

Operator:

Data Path: D:\MassHunter\GCMS\1\data\210630Amak\

Line	Type	Vials	DataFile	Sample Name
-----				
Acquisition Method Path: D:\MassHunter\GCMS\1\methods\				
Acquisition Method File: 14Dioxane_200522 MAK.M				

Tue Jul 06 13:54:34 2021

Fatal sequence error detected.

User aborted run

D:\MassHunter\GCMS\1\data\210630Amak\2021 Jul 06 1353 Sequence Log .LOG

Starting sequence Tue Jul 06 13:55:26 2021

Instrument Name: GCMS#16

Sequence File: D:\MassHunter\GCMS\1\sequence\210706tst.sequence.xml

Comment:

Operator:

Data Path: D:\MassHunter\GCMS\1\data\210630Amak\

Line	Type	Vials	DataFile	Sample Name
-----				
Acquisition Method Path: D:\MassHunter\GCMS\1\methods\				
Acquisition Method File: 14Dioxane_200522_MAK.M				
5)	Sample	6	GCMS_210706005	SUR+IS 10ml volumetric
6)	Sample	7	GCMS_210706006	SUR+IS vial vol
7)	Sample	8	GCMS_210706007	BS1+10ml volumetric

Sequence completed Tue Jul 06 14:55:47 2021

D:\MassHunter\GCMS\1\data\210630Amak\2021 Jul 06 1355 Sequence Log .LOG

Starting sequence Tue Jul 06 16:13:19 2021

Instrument Name: GCMS#16

Sequence File: D:\MassHunter\GCMS\1\sequence\210706tst.sequence.xml

Comment:

Operator:

Data Path: D:\MassHunter\GCMS\1\data\210630Amak\

Line	Type	Vials	DataFile	Sample Name
-----				
Acquisition Method Path: D:\MassHunter\GCMS\1\methods\				
Acquisition Method File: 14Dioxane_200522_MAK.M				
8)	Sample	5	GCMS_210706008	new ss/bs test 10ml

Sequence completed Tue Jul 06 16:30:31 2021

D:\MassHunter\GCMS\1\data\210630Amak\2021 Jul 06 1613 Sequence Log .LOG

Starting sequence Tue Jul 06 17:35:58 2021

Instrument Name: GCMS#16

Sequence File: D:\MassHunter\GCMS\1\sequence\210706tst.sequence.xml

Comment:

Operator:

Data Path: D:\MassHunter\GCMS\1\data\210630Amak\

Line	Type	Vials	DataFile	Sample Name
-----				
Acquisition Method Path: D:\MassHunter\GCMS\1\methods\				
Acquisition Method File: 14Dioxane_200522_MAK.M				
9)	Sample	1	GCMS_210706009	DCM
10)	Sample	5	GCMS_210706010	new ss/bs test 10ml

Sequence completed Tue Jul 06 18:14:29 2021

D:\MassHunter\GCMS\1\data\210630Amak\2021 Jul 06 1735 Sequence Log .LOG

Starting sequence Wed Jul 07 09:11:25 2021

Instrument Name: GCMS#16  
Sequence File: D:\MassHunter\GCMS\1\sequence\210707.sequence.xml  
Comment:  
Operator:  
Data Path: D:\MassHunter\GCMS\1\data\210707mak\

Line	Type	Vials	DataFile	Sample Name
-----				
Acquisition Method Path: D:\MassHunter\GCMS\1\methods\				
Acquisition Method File: 14Dioxane_200522_MAK.M				
1)	Sample	1	GCMS_210707001	DCM
Acquisition Method Path: D:\MassHunter\GCMS\1\methods\				
Acquisition Method File: Dioxane_Scan_191120_CR.M				
2)	Sample	1	GCMS_210707002	DCM
3)	Sample	1	GCMS_210707003	DCM
4)	Pause:	' '		

Sequence paused Wed Jul 07 10:10:50 2021

D:\MassHunter\GCMS\1\data\210707mak\2021 Jul 07 0911 Sequence Log .LOG

Starting sequence Wed Jul 07 11:32:41 2021

Instrument Name: GCMS#16  
Sequence File: D:\MassHunter\GCMS\1\sequence\210707.sequence.xml  
Comment:  
Operator:  
Data Path: D:\MassHunter\GCMS\1\data\210707mak\

Line	Type	Vials	DataFile	Sample Name
-----				
Acquisition Method Path: D:\MassHunter\GCMS\1\methods\				
Acquisition Method File: 14Dioxane_200522_MAK.M				
1)	Sample	1	GCMS_210707004	DCM
Acquisition Method Path: D:\MassHunter\GCMS\1\methods\				
Acquisition Method File: Dioxane_Scan_191120_CR.M				
2)	Sample	2	GCMS_210707005	DCM
3)	Sample	2	GCMS_210707006	BFB Tune 1 ppm
Acquisition Method Path: D:\MassHunter\GCMS\1\methods\				
Acquisition Method File: 14Dioxane_200522_MAK.M				
4)	Sample	3	GCMS_210707007	Open CCV 25 ppb
Acquisition Method Path: D:\MassHunter\GCMS\1\methods\				
Acquisition Method File: Dioxane_Scan_191120_CR.M				
5)	Sample	4	GCMS_210707008	Cal BLK

Sequence completed Wed Jul 07 13:14:52 2021

D:\MassHunter\GCMS\1\data\210707mak\2021 Jul 07 1132 Sequence Log .LOG

Starting sequence Wed Jul 07 15:12:38 2021

Instrument Name: GCMS#16  
Sequence File: D:\MassHunter\GCMS\1\sequence\210707.sequence.xml  
Comment:  
Operator:  
Data Path: D:\MassHunter\GCMS\1\data\210707mak\

Line	Type	Vials	DataFile	Sample Name
-----				
Acquisition Method Path: D:\MassHunter\GCMS\1\methods\				
Acquisition Method File: Dioxane_Scan_191120_CR.M				
3)	Sample	2	GCMS_210707011	BFB Tune 1 ppm
Acquisition Method Path: D:\MassHunter\GCMS\1\methods\				
Acquisition Method File: 14Dioxane_200522_MAK.M				
4)	Sample	3	GCMS_210707012	Open CCV 25 ppb
5)	Sample	4	GCMS_210707013	CAL BLK
6)	Sample	5	GCMS_210707014	E21G004-BLK1
7)	Sample	6	GCMS_210707015	E21G004-MRL1
8)	Sample	7	GCMS_210707016	E21G004-BS1
9)	Sample	8	GCMS_210707017	E21G004-BSD1
10)	Sample	9	GCMS_210707018	E210602-02RE1
11)	Sample	10	GCMS_210707019	E210602-03RE1
12)	Sample	11	GCMS_210707020	E210602-04RE1
13)	Sample	12	GCMS_210707021	E210602-05RE1
14)	Sample	13	GCMS_210707022	E210602-06RE1
15)	Sample	14	GCMS_210707023	E210602-07RE1
16)	Sample	15	GCMS_210707024	E21G005-BLK1
17)	Sample	16	GCMS_210707025	E21G005-MRL1
18)	Sample	17	GCMS_210707026	E21G005-BS1
19)	Sample	18	GCMS_210707027	E21G005-BSD1
20)	Sample	19	GCMS_210707028	E210603-01RE1
21)	Sample	20	GCMS_210707029	E210603-02RE1
22)	Sample	21	GCMS_210707030	E210603-03RE1
23)	Sample	22	GCMS_210707031	E210603-04RE1
24)	Sample	23	GCMS_210707032	E210603-05RE1
25)	Sample	24	GCMS_210707033	E210603-06RE1
26)	Sample	25	GCMS_210707034	E210603-07RE1
Acquisition Method Path: D:\MassHunter\GCMS\1\methods\				
Acquisition Method File: Dioxane_Scan_191120_CR.M				
27)	Sample	2	GCMS_210707035	DCM
Acquisition Method Path: D:\MassHunter\GCMS\1\methods\				
Acquisition Method File: 14Dioxane_200522_MAK.M				
28)	Sample	3	GCMS_210707036	Open CCV 25 ppb

Sequence completed Thu Jul 08 00:19:23 2021

D:\MassHunter\GCMS\1\data\210707mak\2021 Jul 07 1512 Sequence Log .LOG



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536 South Clark Street, Suite 734  
Chicago, IL 60605  
(312) 353-3593  
(312) 353-5814 (Fax)  
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Date: 8/6/2021

Semivolatiles / non-volatiles in WATER extraction bench sheet

Date prep started: 6/28/2021

Analyst(s): MAK

**Batch Number: E21F007**  
**Analyses Included On This Benchsheet**

1,4-Dioxane by SPE Low Level

Extraction Method: continuous liquid-liquid ( ) solid-phase (X) separatory funnel ( ) micro-extraction ( )

Extract concentration by: turbovap LV ( ) turbovap 500 ( ) N-evap ( ) Syncore ( ) N/A(X)

**Surrogate 1: E21F016 Amount: 12.5uL**

Sample Number	Source ID for duplicate or MS/MSD	LCS/MS Spike ID	LCS/MS Spike Amount ( $\mu$ L)	Sample Amount (mL)	Volume of Extract (mL)*	Dil 1	Dil 2	Dil 3	Final Volume of Extract (mL)**	Comments
E210602-01				244	10					
E210602-02				244	10					
E210602-03				228	10					
E210602-05				250	10					
E210602-06				240	10					
E210602-07				254	10					
E210603-01				258	10					
E210603-02				254	10					
E210603-03				252	10					
E210603-04				256	10					
E210603-05				256	10					

Batch Comments:

Comments:



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Date: 8/6/2021

Semivolatiles / non-volatiles in WATER extraction bench sheet

Date prep started: 6/28/2021

Analyst(s): MAK

**Batch Number: E21F007**  
**Analyses Included On This Benchsheet**

1,4-Dioxane by SPE Low Level

Sample Number	Source ID for duplicate or MS/MSD	LCS/MS Spike ID	LCS/MS Spike Amount ( $\mu$ L)	Sample Amount (mL)	Volume of Extract (mL)*	Dil 1	Dil 2	Dil 3	Final Volume of Extract (mL)**	Comments
E210603-06				254	10					
E210607-01				246	10					
E21F007-BLK1				250	10					
E21F007-BS1		E21G001	250	250	10					
E21F007-BSD1		E21G001	250	250	10					
E21F007-MRL1		E21G001	50	250	10					
E21F007-MS1	E210607-01	E21G001	250	242	10					
E21F007-MSD1	E210607-01	E21G001	250	244	10					

Batch Comments:

Comments:



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Date: 8/6/2021

Semivolatiles / non-volatiles in WATER extraction bench sheet

Date prep started: 6/28/2021

Analyst(s): MAK

**Batch Number: E21F007**  
**Analyses Included On This Benchsheet**

1,4-Dioxane by SPE Low Level

\* VOLUME AFTER CONCENTRATION; \*\*AFTER ALL DILUTIONS

CLEANUP: GPC( ) OTHERS: N/A

Internal standard LIMS ID: E21F015

Calibration standard LIMS ID: E21F017

Solvent(s) Used: Methylene Chloride (X) Acetone ( ) Hexane ( ) Methanol (X) Acetonitrile ( ) Ethyl Acetate ( ) Other (list)

Solvent LIMS ID #: \_\_\_\_\_

TurboVap 500 ID: 1 2 3 4 5 Date used: \_\_\_\_\_

TurboVap LV ID: 1 2 Date used: \_\_\_\_\_

N-Evap ID: 1 2 Date used: \_\_\_\_\_

Syncore Analyst ID: 1 2 Date used: \_\_\_\_\_

Reagent(s) Used: (e.g., NaCl, Na<sub>2</sub>SO<sub>4</sub>, 10 N NaOH, 1:1 H<sub>2</sub>SO<sub>4</sub>-H<sub>2</sub>O, pH paper, Other (list)):

Reagent LIMS IDs or manufacturer / part # / lot # pH strips ASB 18D1901, Na<sub>2</sub>SO<sub>4</sub> ASB 21E1002

(NOTE: LIMS IDs required for all prepared solutions): N/A

**PREPARATION REAGENTS/STANDARDS/PIPETTES:**

**E21G001:** 1,4-Dioxane SPK @ 1 ug/mL

**E21F016:** 1,4-Dioxane-d8 Surr SPK @ 20 ug/mL

Batch Comments:

Comments:



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Chicago, IL 60605  
(312) 353-3593  
(312) 353-5814 (Fax)  
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Date: 8/6/2021

Semivolatiles / non-volatiles in WATER extraction bench sheet

Date prep started: 6/30/2021

Analyst(s): MAK

**Batch Number: E21F008**  
**Analyses Included On This Benchsheet**

1,4-Dioxane by SPE Low Level

Extraction Method: continuous liquid-liquid ( ) solid-phase (X) separatory funnel ( ) micro-extraction ( )

Extract concentration by: turbovap LV ( ) turbovap 500 ( ) N-evap ( ) Syncore ( ) N/A (X)

**Surrogate 1: E21F016 Amount: 12.5uL**

Sample Number	Source ID for duplicate or MS/MSD	LCS/MS Spike ID	LCS/MS Spike Amount ( $\mu$ L)	Sample Amount (mL)	Volume of Extract (mL)*	Dil 1	Dil 2	Dil 3	Final Volume of Extract (mL)**	Comments
E210602-04				256	10					
E210606-01				244	10					
E210606-02				254	10					
E210606-03				244	10					
E210606-04				246	10					
E210606-05				226	10					
E210606-06				258	10					
E210606-07				258	10					
E210606-08				258	10					
E210606-09				250	10					
E210606-10				254	10					

Batch Comments:

Comments:



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(312) 353-5814 (Fax)  
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Date: 8/6/2021

Semivolatiles / non-volatiles in WATER extraction bench sheet

Date prep started: 6/30/2021

Analyst(s): MAK

**Batch Number: E21F008**  
**Analyses Included On This Benchsheet**

1,4-Dioxane by SPE Low Level

Sample Number	Source ID for duplicate or MS/MSD	LCS/MS Spike ID	LCS/MS Spike Amount ( $\mu$ L)	Sample Amount (mL)	Volume of Extract (mL)*	Dil 1	Dil 2	Dil 3	Final Volume of Extract (mL)**	Comments
E210606-11				256	10					
E210606-12				248	10					
E210606-13				252	10					
E210606-14				258	10					
E210606-15				256	10					
E210606-16				228	10					
E21F008-BLK1				250	10					
E21F008-BS1		E21G001	250	250	10					
E21F008-BSD1		E21G001	250	250	10					
E21F008-MRL1		E21G001	50	250	10					
E21F008-MS1	E210602-04	E21G001	250	250	10					
E21F008-MSD1	E210602-04	E21G001	250	250	10					

Batch Comments:

Comments:



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Date: 8/6/2021

Semivolatiles / non-volatiles in WATER extraction bench sheet

Date prep started: 6/30/2021

Analyst(s): MAK

**Batch Number: E21F008**  
**Analyses Included On This Benchsheet**

1,4-Dioxane by SPE Low Level

\* VOLUME AFTER CONCENTRATION; \*\*AFTER ALL DILUTIONS

CLEANUP: GPC( ) OTHERS: N/A

Internal standard LIMS ID: E21F015

Calibration standard LIMS ID: E21F017

Solvent(s) Used: Methylene Chloride (X) Acetone ( ) Hexane ( ) Methanol (X) Acetonitrile ( ) Ethyl Acetate ( ) Other (list)

Solvent LIMS ID #: \_\_\_\_\_

TurboVap 500 ID: 1 2 3 4 5 Date used: \_\_\_\_\_

TurboVap LV ID: 1 2 Date used: \_\_\_\_\_

N-Evap ID: 1 2 Date used: \_\_\_\_\_

Syncore Analyst ID: 1 2 Date used: \_\_\_\_\_

Reagent(s) Used: (e.g., NaCl, Na<sub>2</sub>SO<sub>4</sub>, 10 N NaOH, 1:1 H<sub>2</sub>SO<sub>4</sub>-H<sub>2</sub>O, pH paper, Other (list)):

Reagent LIMS IDs or  
manufacturer / part # / lot # pH strips ASB 18D1901, Na<sub>2</sub>SO<sub>4</sub> ASB 21E1002  
N/A

(NOTE: LIMS IDs required  
for all prepared solutions): N/A

**PREPARATION REAGENTS/STANDARDS/PIPETTES:**

**E21G001:** 1,4-Dioxane SPK @ 1 ug/mL

**E21F016:** 1,4-Dioxane-d8 Surr SPK @ 20 ug/mL

Batch Comments:

Comments:



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Date: 8/6/2021

Semivolatiles / non-volatiles in WATER extraction bench sheet

Date prep started: 7/06/2021

Analyst(s): MAK

**Batch Number: E21G004**  
**Analyses Included On This Benchsheet**

1,4-Dioxane by SPE Low Level

Extraction Method: continuous liquid-liquid ( ) solid-phase (X) separatory funnel ( ) micro-extraction ( )

Extract concentration by: turbovap LV ( ) turbovap 500 ( ) N-evap ( ) Syncore ( ) N/A (X)

**Surrogate 1: E21G003 Amount: 12.5uL**

Sample Number	Source ID for duplicate or MS/MSD	LCS/MS Spike ID	LCS/MS Spike Amount ( $\mu$ L)	Sample Amount (mL)	Volume of Extract (mL)*	Dil 1	Dil 2	Dil 3	Final Volume of Extract (mL)**	Comments
E210602-02RE1				244	10					
E210602-03RE1				236	10					
E210602-04RE1				248	10					
E210602-05RE1				256	10					
E210602-06RE1				258	10					
E210602-07RE1				254	10					
E21G004-BLK1				250	10					
E21G004-BS1		E21G002	250	250	10					
E21G004-BSD1		E21G002	250	250	10					
E21G004-MRL1		E21G002	50	250	10					

Batch Comments:

Comments:



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Date: 8/6/2021

Semivolatiles / non-volatiles in WATER extraction bench sheet

Date prep started: 7/6/2021

Analyst(s): MAK

**Batch Number: E21G004**  
**Analyses Included On This Benchsheet**

1,4-Dioxane by SPE Low Level

\* VOLUME AFTER CONCENTRATION; \*\*AFTER ALL DILUTIONS

CLEANUP: GPC( ) OTHERS: N/A

Internal standard LIMS ID: E21F015

Calibration standard LIMS ID: E21F017

Solvent(s) Used: Methylene Chloride (X) Acetone ( ) Hexane ( ) Methanol (X) Acetonitrile ( ) Ethyl Acetate ( ) Other (list)

Solvent LIMS ID #: \_\_\_\_\_

TurboVap 500 ID: 1 2 3 4 5 Date used: \_\_\_\_\_

TurboVap LV ID: 1 2 Date used: \_\_\_\_\_

N-Evap ID: 1 2 Date used: \_\_\_\_\_

Syncore Analyst ID: 1 2 Date used: \_\_\_\_\_

Reagent(s) Used: (e.g., NaCl, Na<sub>2</sub>SO<sub>4</sub>, 10 N NaOH, 1:1 H<sub>2</sub>SO<sub>4</sub>-H<sub>2</sub>O, pH paper, Other (list)):

Reagent LIMS IDs or manufacturer / part # / lot # pH strips ASB 18D1901, Na<sub>2</sub>SO<sub>4</sub> ASB 21E1002

(NOTE: LIMS IDs required N/A for all prepared solutions): N/A

**PREPARATION REAGENTS/STANDARDS/PIPETTES:**

**E21G002:** 1,4-Dioxane SPK @ 1 ug/mL

**E21G003:** 1,4-Dioxane-d8 Surr SPK @ 20 ug/mL

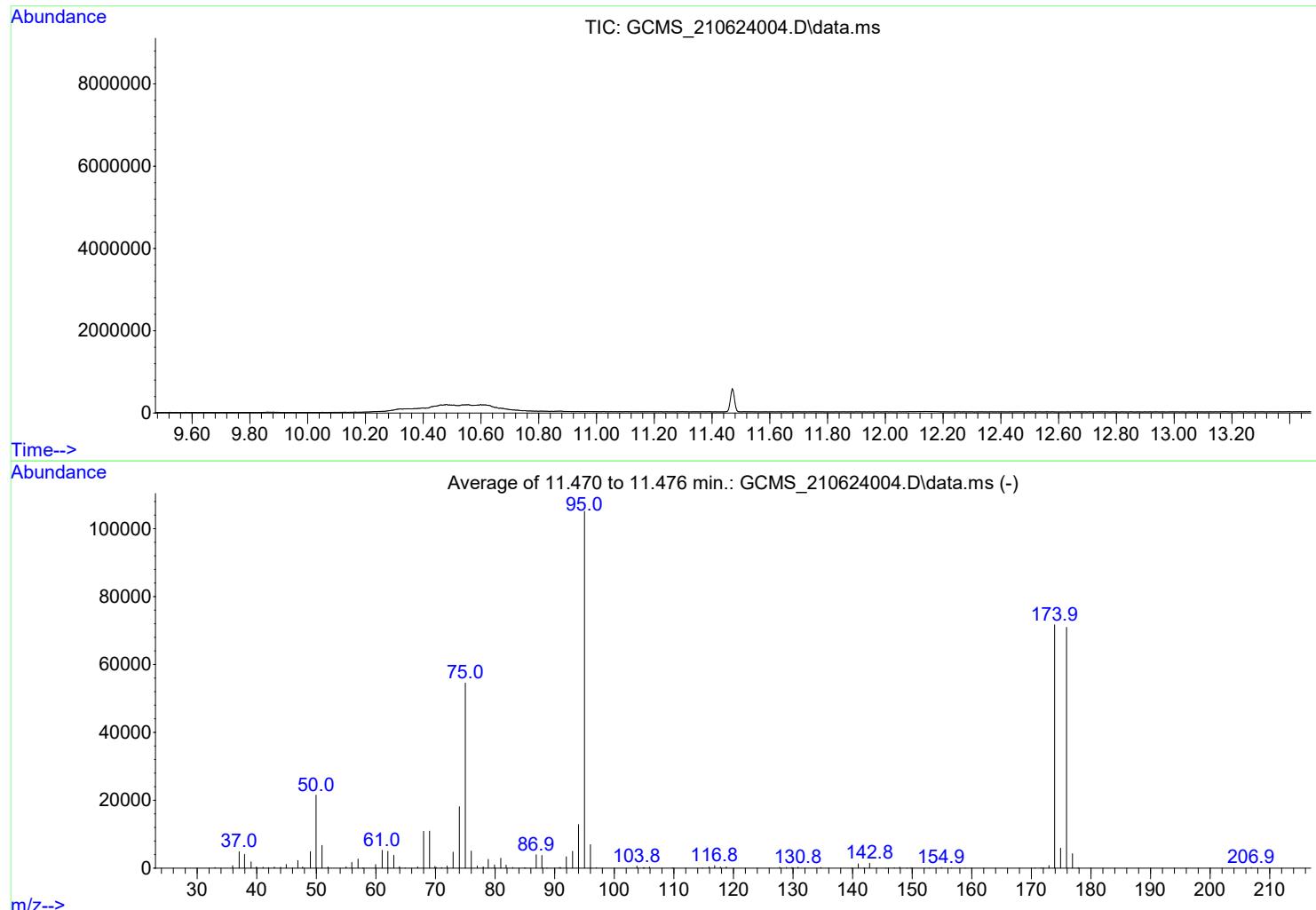
Batch Comments:

Comments:

Data Path : D:\MassHunter\GCMS\1\data\210624\_mak\  
 Data File : GCMS\_210624004.D  
 Acq On : 24 Jun 2021 09:41 am  
 Operator :  
 Sample : BFB Tune 1 ppm  
 Misc :  
 ALS Vial : 2 Sample Multiplier: 1

Integration File: events.e

Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Title : Initial Calibration of 1,4-Dioxane 021317  
 Last Update : Thu Jun 24 15:10:43 2021



AutoFind: Scans 1663, 1664, 1665; Background Corrected with Scan 1653

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.5	21520	PASS
75	95	30	80	51.9	54544	PASS
95	95	100	100	100.0	105133	PASS
96	95	5	9	6.6	6951	PASS
173	174	0.00	2	1.1	763	PASS
174	95	50	100	68.2	71680	PASS
175	174	5	9	8.2	5891	PASS
176	174	95	101	99.0	70955	PASS
177	176	5	9	6.0	4277	PASS

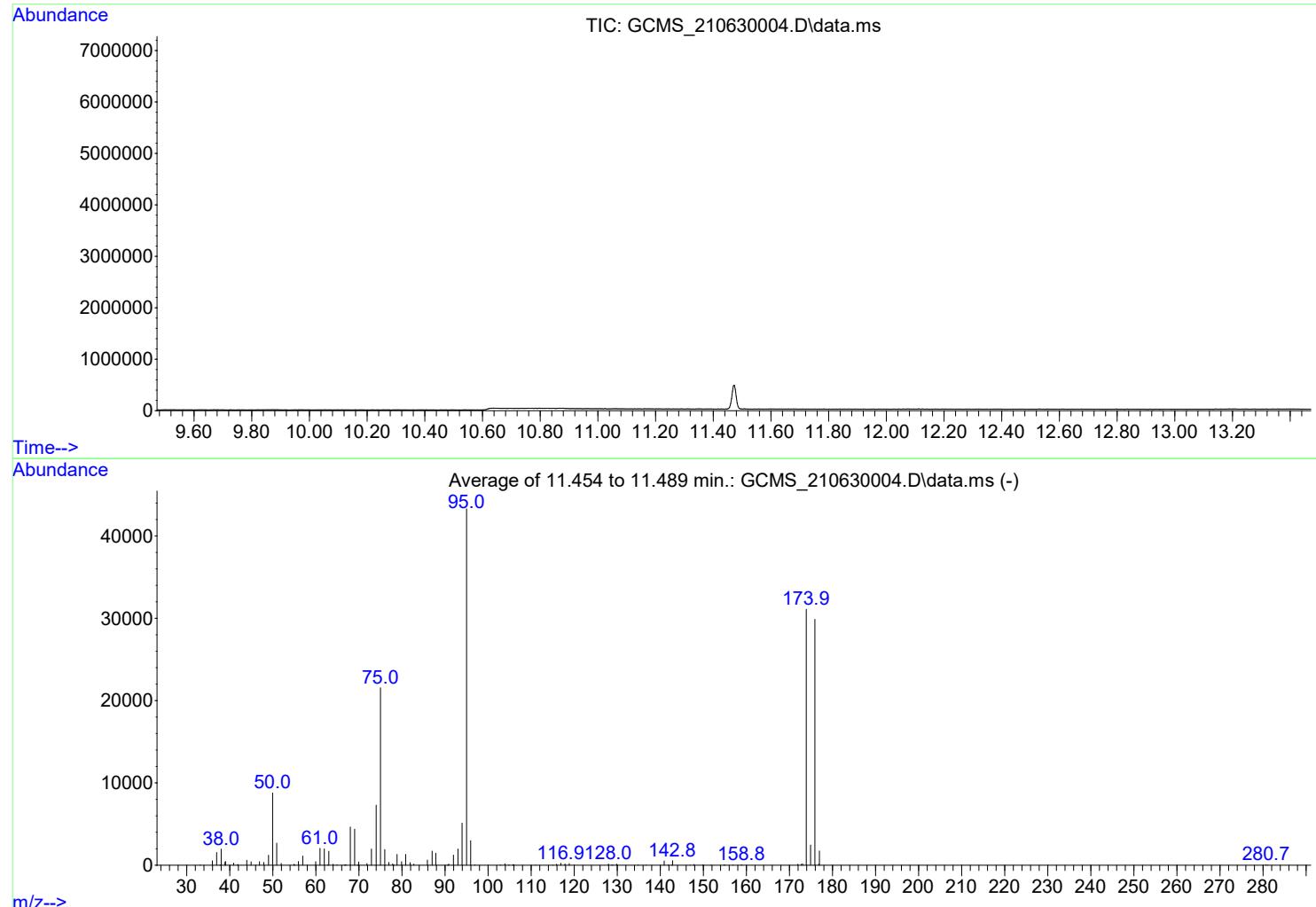
MAK 8/10/2021

**REVIEWED**  
By Bruce Gallant at 8:29 am, Aug 17, 2021

Data Path : D:\MassHunter\GCMS\1\data\210630Amak\  
 Data File : GCMS\_210630004.D  
 Acq On : 30 Jun 2021 05:22 pm  
 Operator :  
 Sample : BFB Tune 1 ppm  
 Misc :  
 ALS Vial : 2 Sample Multiplier: 1

Integration File: events.e

Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Title : Initial Calibration of 1,4-Dioxane 021317  
 Last Update : Thu Jun 24 15:10:43 2021



Spectrum Information: Average of 11.454 to 11.489 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.3	8782	PASS
75	95	30	80	49.8	21559	PASS
95	95	100	100	100.0	43302	PASS
96	95	5	9	6.9	2986	PASS
173	174	0.00	2	0.6	181	PASS
174	95	50	100	71.8	31103	PASS
175	174	5	9	7.9	2458	PASS
176	174	95	101	96.1	29883	PASS
177	176	5	9	5.8	1737	PASS

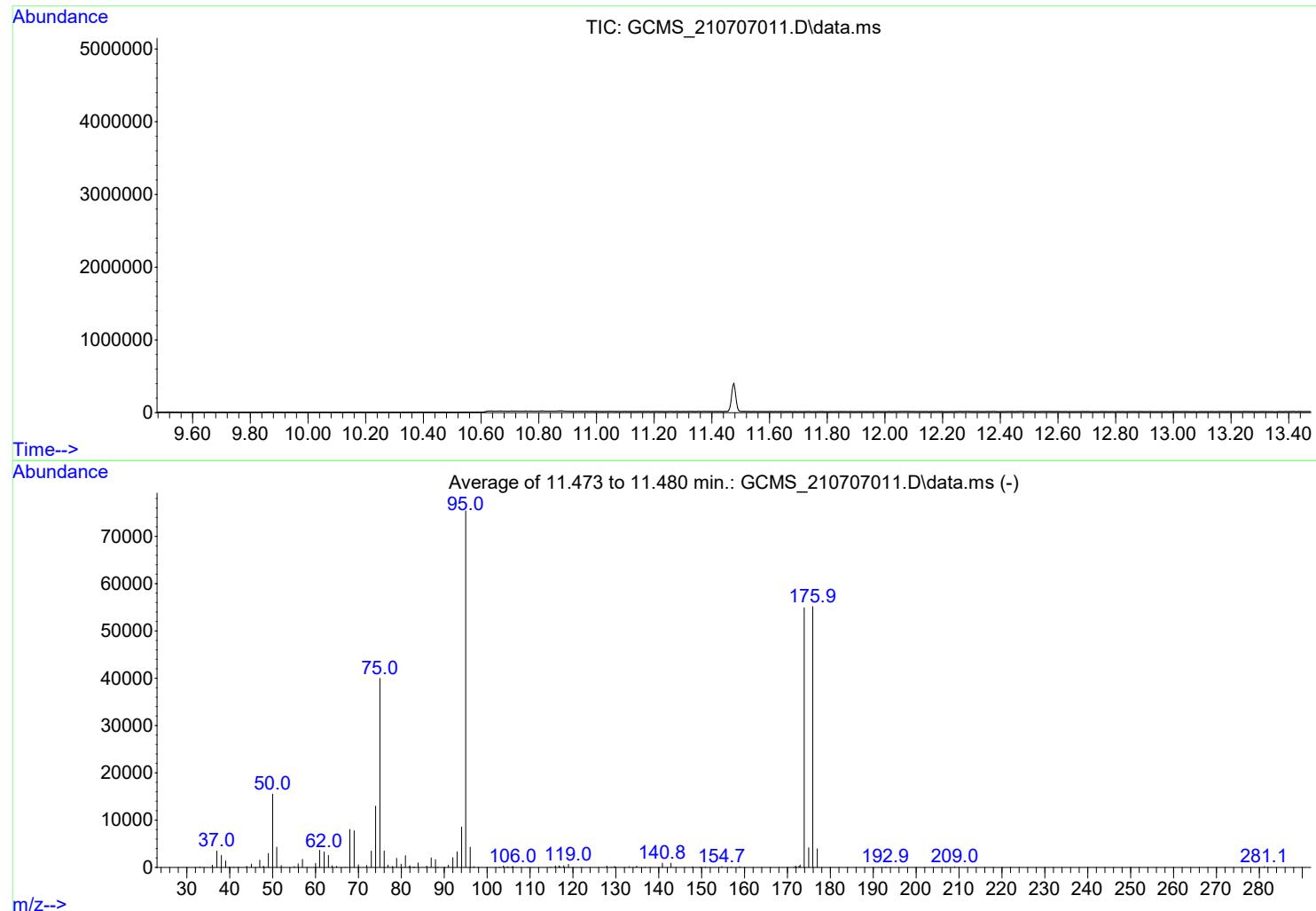
MAK 8/10/2021

REVIEWED  
By Bruce Gallant at 8:29 am, Aug 17, 2021

Data Path : D:\MassHunter\GCMS\1\data\210707mak\  
 Data File : GCMS\_210707011.D  
 Acq On : 07 Jul 2021 03:15 pm  
 Operator :  
 Sample : BFB Tune 1 ppm  
 Misc :  
 ALS Vial : 2 Sample Multiplier: 1

Integration File: events.e

Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Title : Initial Calibration of 1,4-Dioxane 021317  
 Last Update : Thu Jun 24 15:10:43 2021



Spectrum Information: Average of 11.473 to 11.480 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.6	15513	PASS
75	95	30	80	53.0	39984	PASS
95	95	100	100	100.0	75397	PASS
96	95	5	9	5.7	4289	PASS
173	174	0.00	2	1.0	523	PASS
174	95	50	100	72.8	54901	PASS
175	174	5	9	7.6	4176	PASS
176	174	95	101	100.5	55152	PASS
177	176	5	9	7.1	3942	PASS

MAK 8/10/2021

REVIEWED  
By Bruce Gallant at 8:29 am, Aug 17, 2021

**Work Order:** E210602 and E21603  
**Batch:**  
**Instrument:** GCMS16

**Analyst:** Matt Kobus  
**Method:** 14DIOXANE\_SIM\_PROCESS\_200527\_MAK  
**SOP:** MS035 v2

Date Acquired	Data File Name	Sample Name	Misc Info	Comment	Tetrahydrofuran-d8 (RT ±0.17)			Tetrahydrofuran-d8 (Area 50-200%)			
						vs ICAL L5	vs O CCV		vs ICAL L5	vs O CCV	vs C CCV
6/30/2021 17:01	GCMS_210630003.D	DCM		not reported	0				0		
6/30/2021 17:22	GCMS_210630004.D	BFB Tune 1 ppm			0				0		
6/30/2021 17:45	GCMS_210630005.D	Open CCV 25 ppb			5.7	0.00	0.00		62222	95%	100.0%
6/30/2021 18:06	GCMS_210630006.D	CAL BLK		not reported	5.71	0.01	0.01		79845	122%	128.3%
6/30/2021 18:27	GCMS_210630007.D	E21F007-BLK1			5.7	0.00	0.00		71815	110%	115.4%
6/30/2021 18:48	GCMS_210630008.D	E21F007-MRL1			5.71	0.01	0.01		82488	126%	132.6%
6/30/2021 19:09	GCMS_210630009.D	E21F007-BS1			5.7	0.00	0.00		77796	119%	125.0%
6/30/2021 19:31	GCMS_210630010.D	E21F007-BSD1			5.7	0.00	0.00		74529	114%	119.8%
6/30/2021 19:53	GCMS_210630011.D	E210607-01			5.71	0.01	0.01		81074	124%	130.3%
6/30/2021 20:14	GCMS_210630012.D	E21F007-MS1	E210607-01 MS		5.69	-0.01	-0.01		61181	93%	98.3%
6/30/2021 20:35	GCMS_210630013.D	E21F007-MSD1	E210607-01 MSD		5.69	-0.01	-0.01		62448	95%	100.4%
6/30/2021 20:56	GCMS_210630014.D	E210602-01			5.7	0.00	0.00		77775	119%	125.0%
6/30/2021 21:18	GCMS_210630015.D	E210602-02		not reported	5.69	-0.01	-0.01		52589	80%	84.5%
6/30/2021 21:39	GCMS_210630016.D	E210602-03		not reported	5.7	0.00	0.00		75292	115%	121.0%
6/30/2021 22:00	GCMS_210630017.D	E210602-05		not reported	5.7	0.00	0.00		78856	120%	126.7%
6/30/2021 22:21	GCMS_210630018.D	E210602-06		not reported	5.69	-0.01	-0.01		52002	79%	83.6%
6/30/2021 22:42	GCMS_210630019.D	E210602-07		not reported	5.7	0.00	0.00		64626	99%	103.9%
6/30/2021 23:03	GCMS_210630020.D	E210603-01		not reported	5.7	0.00	0.00		89092	136%	143.2%
6/30/2021 23:24	GCMS_210630021.D	E210603-02		not reported	5.7	0.00	0.00		70325	107%	113.0%
6/30/2021 23:45	GCMS_210630022.D	E210603-03		not reported	5.7	0.00	0.00		86781	132%	139.5%

7/1/2021 0:06	GCMS_210630023.D	E210603-04		not reported	5.7	0.00	0.00		75520	115%	121.4%	124.2%
7/1/2021 0:27	GCMS_210630024.D	E210603-05		not reported	5.7	0.00	0.00		74122	113%	119.1%	121.9%
7/1/2021 0:48	GCMS_210630025.D	E210603-06		not reported	5.7	0.00	0.00		79824	122%	128.3%	131.3%
7/1/2021 1:09	GCMS_210630026.D	BFB Tune 1 ppm		not reported	0	-5.70			0			
7/1/2021 1:30	GCMS_210630027.D	CCV 25 ppb			5.7	0.00	0.00		60808	93%	100.0%	
7/1/2021 1:51	GCMS_210630028.D	CAL BLK		not reported	5.7	0.00	0.00		70783	108%	116.4%	139.3%
7/1/2021 2:12	GCMS_210630029.D	E21F008-BLK1		not reported	5.7	0.00	0.00		72481	111%	119.2%	142.6%
7/1/2021 2:33	GCMS_210630030.D	E21F008-MRL1		not reported	5.7	0.00	0.00		74705	114%	122.9%	147.0%
7/1/2021 2:54	GCMS_210630031.D	E21F008-BS1		not reported	5.7	0.00	0.00		64285	98%	105.7%	126.5%
7/1/2021 3:15	GCMS_210630032.D	E21F008-BSD1		not reported	5.7	0.00	0.00		66486	101%	109.3%	130.8%
7/1/2021 3:36	GCMS_210630033.D	E210602-04		not reported	5.7	0.00	0.00		71580	109%	117.7%	140.9%
7/1/2021 3:57	GCMS_210630034.D	E21F008-MS1	E210602-04 MS	not reported	5.69	-0.01	-0.01		62005	95%	102.0%	122.0%
7/1/2021 4:18	GCMS_210630035.D	E21F008-MSD1	E210602-04 MSD	not reported	5.7	0.00	0.00		68142	104%	112.1%	134.1%
7/1/2021 4:39	GCMS_210630036.D	E210606-01		not reported	5.7	0.00	0.00		70390	107%	115.8%	138.5%
7/1/2021 5:00	GCMS_210630037.D	E210606-02		not reported	5.69	-0.01	-0.01		44255	67%	72.8%	87.1%
7/1/2021 5:21	GCMS_210630038.D	E210606-03		not reported	5.69	-0.01	-0.01		58225	89%	95.8%	114.6%
7/1/2021 5:41	GCMS_210630039.D	E210606-04		not reported	5.7	0.00	0.00		63149	96%	103.9%	124.3%
7/1/2021 6:02	GCMS_210630040.D	E210606-05		not reported	5.7	0.00	0.00		65699	100%	108.0%	129.3%
7/1/2021 6:23	GCMS_210630041.D	E210606-06		not reported	5.7	0.00	0.00		64924	99%	106.8%	127.8%
7/1/2021 6:43	GCMS_210630042.D	E210606-07		not reported	5.7	0.00	0.00		61299	93%	100.8%	120.6%
7/1/2021 7:04	GCMS_210630043.D	E210606-08		not reported	5.69	-0.01	-0.01		53931	82%	88.7%	106.1%
7/1/2021 7:25	GCMS_210630044.D	E210606-09		not reported	5.7	0.00	0.00		64791	99%	106.6%	127.5%
7/1/2021 7:45	GCMS_210630045.D	E210606-10		not reported	5.7	0.00	0.00		59434	91%	97.7%	117.0%
7/1/2021 8:06	GCMS_210630046.D	E210606-11		not reported	5.7	0.00	0.00		65781	100%	108.2%	129.4%
7/1/2021 8:26	GCMS_210630047.D	E210606-12		not reported	5.7	0.00	0.00		69219	106%	113.8%	136.2%
7/1/2021 8:47	GCMS_210630048.D	E210606-13		not reported	5.69	-0.01	-0.01		51819	79%	85.2%	102.0%
7/1/2021 9:07	GCMS_210630049.D	CAL BLK		not reported	5.69	-0.01	-0.01		57161	87%	94.0%	112.5%
7/1/2021 9:28	GCMS_210630050.D	E210606-14		not reported	5.7	0.00	0.00		56831	87%	93.5%	111.8%
7/1/2021 9:48	GCMS_210630051.D	E210606-15		not reported	5.69	-0.01	-0.01		51155	78%	84.1%	100.7%
7/1/2021 10:09	GCMS_210630052.D	E210606-16		not reported	5.7	0.00	0.00		58705	90%	96.5%	115.5%
	GCMS_210630053.D	CAL BLK		not reported	5.7	0.00	0.00		61496	94%	101.1%	121.0%
7/1/2021 10:50	GCMS_210630054.D	CCV 25 ppb		not reported	5.69	-0.01	-0.01		50817	78%		100.0%

Date Acquired	Data File Name	Sample Name	Misc Info	Comment	Tetrahydrofuran-d8 (RT ±0.17)			Tetrahydrofuran-d8 (Area 50-200%)			
						vs ICAL L5	vs O CCV		vs ICAL L5	vs O CCV	vs C CCV
7/7/2021 9:14	GCMS_210707001.D	DCM		not reported	0						
7/7/2021 9:34	GCMS_210707002.D	DCM		not reported	0						
7/7/2021 9:56	GCMS_210707003.D	DCM		not reported	0						
7/7/2021 11:35	GCMS_210707004.D	DCM		not reported	0						
7/7/2021 11:56	GCMS_210707005.D	DCM		not reported	0						
7/7/2021 12:17	GCMS_210707006.D	BFB Tune 1 ppm		not reported	0						
7/7/2021 12:38	GCMS_210707007.D	Open CCV 25 ppb		not reported	5.69	-0.01	0.00		44374	68%	100.0%
7/7/2021 13:00	GCMS_210707008.D	Cal BLK			0						
7/7/2021 15:15	GCMS_210707011.D	BFB Tune 1 ppm		ok	0						
7/7/2021 15:36	GCMS_210707012.D	Open CCV 25 ppb		Pass	5.7	0.00			42722	65%	96.3%
7/7/2021 15:57	GCMS_210707013.D	CAL BLK		not reported	5.68	-0.02	-0.01		44553	68%	100.4%
7/7/2021 16:18	GCMS_210707014.D	E21G004-BLK1			5.68	-0.02	-0.01		39141	60%	88.2%
7/7/2021 16:40	GCMS_210707015.D	E21G004-MRL1			5.7	0.00	0.01		45200	69%	101.9%
7/7/2021 17:01	GCMS_210707016.D	E21G004-BS1			5.69	-0.01	0.00		42273	64%	95.3%
7/7/2021 17:22	GCMS_210707017.D	E21G004-BSD1			5.69	-0.01	0.00		39720	61%	89.5%
7/7/2021 17:44	GCMS_210707018.D	E210602-02RE1			5.69	-0.01	0.00		35563	54%	80.1%
7/7/2021 18:05	GCMS_210707019.D	E210602-03RE1			5.69	-0.01	0.00		34766	53%	78.3%
7/7/2021 18:26	GCMS_210707020.D	E210602-04RE1			5.69	-0.01	0.00		42530	65%	95.8%
7/7/2021 18:47	GCMS_210707021.D	E210602-05RE1			5.69	-0.01	0.00		40155	61%	90.5%
7/7/2021 19:08	GCMS_210707022.D	E210602-06RE1			5.69	-0.01	0.00		36775	56%	82.9%
7/7/2021 19:29	GCMS_210707023.D	E210602-07RE1			5.69	-0.01	0.00		35202	54%	79.3%
7/7/2021 19:50	GCMS_210707024.D	E21G005-BLK1			5.68	-0.02	-0.01		35430	54%	79.8%
7/7/2021 20:12	GCMS_210707025.D	E21G005-MRL1			5.7	0.00	0.01		46839	71%	105.6%
7/7/2021 20:33	GCMS_210707026.D	E21G005-BS1			5.7	0.00	0.01		44426	68%	100.1%
7/7/2021 20:54	GCMS_210707027.D	E21G005-BSD1			5.7	0.00	0.01		47646	73%	107.4%
7/7/2021 21:16	GCMS_210707028.D	E210603-01RE1			5.7	0.00	0.01		51621	79%	116.3%
7/7/2021 21:37	GCMS_210707029.D	E210603-02RE1			5.7	0.00	0.01		49220	75%	110.9%
7/7/2021 21:58	GCMS_210707030.D	E210603-03RE1			5.7	0.00	0.01		51445	78%	115.9%
7/7/2021 22:19	GCMS_210707031.D	E210603-04RE1			5.7	0.00	0.01		53597	82%	120.8%
7/7/2021 22:40	GCMS_210707032.D	E210603-05RE1			5.69	-0.01	0.00		36909	56%	83.2%
7/7/2021 23:01	GCMS_210707033.D	E210603-06RE1			5.69	-0.01	0.00		39951	61%	90.0%
7/7/2021 23:22	GCMS_210707034.D	E210603-07RE1		not reported	5.7	0.00	0.01		47278	72%	106.5%
7/7/2021 23:43	GCMS_210707035.D	DCM		not reported	0				0		
7/8/2021 0:04	GCMS_210707036.D	Open CCV 25 ppb			5.69	-0.01	0.00		41958	64%	100.0%

Work Order: E210602 and E21603  
 Batch: GCMS16  
 Instrument: GCMS16

Analyst: Matt Kobus  
 Method: 14DIOXANE\_SIM\_PROCESS\_200527\_MAK  
 SOP: MS035 v2

Date Acquired	Data File Name	Sample Name	Misc Info	Comment	Tetrahydrofuran-d8 (RT ±0.17)			Tetrahydrofuran-d8 (Area 50-200%)		
6/24/2021 8:40	GCMS_210624001.D	DCM			0.00			0		
6/24/2021 9:00	GCMS_210624002.D	DCM			0.00			0		
6/24/2021 9:21	GCMS_210624003.D	DCM			0.00			0		
6/24/2021 9:41	GCMS_210624004.D	BFB Tune 1 ppm			0.00			0		
6/24/2021 10:24	GCMS_210624005.D	Open CCV 25 ppb			5.69			66815		
6/24/2021 10:45	GCMS_210624006.D	CAL BLK			5.70			69020		
6/24/2021 11:06	GCMS_210624007.D	ICAL L1 5 ppb			5.69			57145		
6/24/2021 11:27	GCMS_210624008.D	ICAL L2 10 ppb			5.70			65909		
6/24/2021 11:48	GCMS_210624009.D	ICAL L3 15 ppb			5.71			77639		
6/24/2021 12:09	GCMS_210624010.D	ICAL L4 20 ppb			5.70			64030		
6/24/2021 12:30	GCMS_210624011.D	ICAL L5 25 ppb			5.70			65563		
6/24/2021 12:51	GCMS_210624012.D	ICAL L6 50 ppb			5.69			62102		
6/24/2021 13:12	GCMS_210624013.D	ICAL L7 100 ppb			5.70			72219		
6/24/2021 13:33	GCMS_210624014.D	ICAL L8 250 ppb			5.70			68448		
6/24/2021 13:54	GCMS_210624015.D	ICAL L9 500 ppb			5.71			76693		
6/24/2021 14:15	GCMS_210624016.D	ICAL L10 1000 ppb			5.70	vs ICAL L5		75694	vs ICAL L5	
6/24/2021 14:36	GCMS_210624017.D	CAL BLK			5.70	0.00		60016	92%	
6/24/2021 14:57	GCMS_210624018.D	ICV 25ppb	ICV		5.70	0.00		64847	99%	

Date Acquired	Data File Name	Sample Name	Misc Info	Comment	Tetrahydrofuran-d8 (RT ±0.17)			Tetrahydrofuran-d8 (Area 50-200%)		
					vs ICAL L5	vs O CCV		vs ICAL L5	vs O CCV	vs C CCV
6/30/2021 17:01	GCMS_210630003.D	DCM		not reported	0			0		
6/30/2021 17:22	GCMS_210630004.D	BFB Tune 1 ppm			0			0		
6/30/2021 17:45	GCMS_210630005.D	Open CCV 25 ppb			5.7	0.00	0.00	62222	95%	100.0%
6/30/2021 18:06	GCMS_210630006.D	CAL BLK		not reported	5.71	0.01	0.01	79845	122%	128.3% 131.3%
6/30/2021 18:27	GCMS_210630007.D	E21F007-BLK1			5.7	0.00	0.00	71815	110%	115.4% 118.1%
6/30/2021 18:48	GCMS_210630008.D	E21F007-MRL1			5.71	0.01	0.01	82488	126%	132.6% 135.7%
6/30/2021 19:09	GCMS_210630009.D	E21F007-BS1			5.7	0.00	0.00	77796	119%	125.0% 127.9%
6/30/2021 19:31	GCMS_210630010.D	E21F007-BSD1			5.7	0.00	0.00	74529	114%	119.8% 122.6%
6/30/2021 19:53	GCMS_210630011.D	E210607-01			5.71	0.01	0.01	81074	124%	130.3% 133.3%
6/30/2021 20:14	GCMS_210630012.D	E21F007-MS1	E210607-01 MS		5.69	-0.01	-0.01	61181	93%	98.3% 100.6%
6/30/2021 20:35	GCMS_210630013.D	E21F007-MSD1	E210607-01 MSD		5.69	-0.01	-0.01	62448	95%	100.4% 102.7%
6/30/2021 20:56	GCMS_210630014.D	E210602-01			5.7	0.00	0.00	77775	119%	125.0% 127.9%
6/30/2021 21:18	GCMS_210630015.D	E210602-02		not reported	5.69	-0.01	-0.01	52589	80%	84.5% 86.5%
6/30/2021 21:39	GCMS_210630016.D	E210602-03		not reported	5.7	0.00	0.00	75292	115%	121.0% 123.8%
6/30/2021 22:00	GCMS_210630017.D	E210602-05		not reported	5.7	0.00	0.00	78856	120%	126.7% 129.7%
6/30/2021 22:21	GCMS_210630018.D	E210602-06		not reported	5.69	-0.01	-0.01	52002	79%	83.6% 85.5%
6/30/2021 22:42	GCMS_210630019.D	E210602-07		not reported	5.7	0.00	0.00	64626	99%	103.9% 106.3%
6/30/2021 23:03	GCMS_210630020.D	E210603-01		not reported	5.7	0.00	0.00	89092	136%	143.2% 146.5%
6/30/2021 23:24	GCMS_210630021.D	E210603-02		not reported	5.7	0.00	0.00	70325	107%	113.0% 115.7%
6/30/2021 23:45	GCMS_210630022.D	E210603-03		not reported	5.7	0.00	0.00	86781	132%	139.5% 142.7%
7/1/2021 0:06	GCMS_210630023.D	E210603-04		not reported	5.7	0.00	0.00	75520	115%	121.4% 124.2%

7/1/2021 0:27	GCMS_210630024.D	E210603-05		not reported	5.7	0.00	0.00		74122	113%	119.1%	121.9%
7/1/2021 0:48	GCMS_210630025.D	E210603-06		not reported	5.7	0.00	0.00		79824	122%	128.3%	131.3%
7/1/2021 1:09	GCMS_210630026.D	BFB Tune 1 ppm		not reported	0	-5.70			0			
7/1/2021 1:30	GCMS_210630027.D	CCV 25 ppb			5.7	0.00	0.00		60808	93%	100.0%	
7/1/2021 1:51	GCMS_210630028.D	CAL BLK		not reported	5.7	0.00	0.00		70783	108%	116.4%	139.3%
7/1/2021 2:12	GCMS_210630029.D	E21F008-BLK1		not reported	5.7	0.00	0.00		72481	111%	119.2%	142.6%
7/1/2021 2:33	GCMS_210630030.D	E21F008-MRL1		not reported	5.7	0.00	0.00		74705	114%	122.9%	147.0%
7/1/2021 2:54	GCMS_210630031.D	E21F008-BS1		not reported	5.7	0.00	0.00		64285	98%	105.7%	126.5%
7/1/2021 3:15	GCMS_210630032.D	E21F008-BSD1		not reported	5.7	0.00	0.00		66486	101%	109.3%	130.8%
7/1/2021 3:36	GCMS_210630033.D	E210602-04		not reported	5.7	0.00	0.00		71580	109%	117.7%	140.9%
7/1/2021 3:57	GCMS_210630034.D	E21F008-MS1	E210602-04 MS	not reported	5.69	-0.01	-0.01		62005	95%	102.0%	122.0%
7/1/2021 4:18	GCMS_210630035.D	E21F008-MSD1	E210602-04 MSD	not reported	5.7	0.00	0.00		68142	104%	112.1%	134.1%
7/1/2021 4:39	GCMS_210630036.D	E210606-01		not reported	5.7	0.00	0.00		70390	107%	115.8%	138.5%
7/1/2021 5:00	GCMS_210630037.D	E210606-02		not reported	5.69	-0.01	-0.01		44255	67%	72.8%	87.1%
7/1/2021 5:21	GCMS_210630038.D	E210606-03		not reported	5.69	-0.01	-0.01		58225	89%	95.8%	114.6%
7/1/2021 5:41	GCMS_210630039.D	E210606-04		not reported	5.7	0.00	0.00		63149	96%	103.9%	124.3%
7/1/2021 6:02	GCMS_210630040.D	E210606-05		not reported	5.7	0.00	0.00		65699	100%	108.0%	129.3%
7/1/2021 6:23	GCMS_210630041.D	E210606-06		not reported	5.7	0.00	0.00		64924	99%	106.8%	127.8%
7/1/2021 6:43	GCMS_210630042.D	E210606-07		not reported	5.7	0.00	0.00		61299	93%	100.8%	120.6%
7/1/2021 7:04	GCMS_210630043.D	E210606-08		not reported	5.69	-0.01	-0.01		53931	82%	88.7%	106.1%
7/1/2021 7:25	GCMS_210630044.D	E210606-09		not reported	5.7	0.00	0.00		64791	99%	106.6%	127.5%
7/1/2021 7:45	GCMS_210630045.D	E210606-10		not reported	5.7	0.00	0.00		59434	91%	97.7%	117.0%
7/1/2021 8:06	GCMS_210630046.D	E210606-11		not reported	5.7	0.00	0.00		65781	100%	108.2%	129.4%
7/1/2021 8:26	GCMS_210630047.D	E210606-12		not reported	5.7	0.00	0.00		69219	106%	113.8%	136.2%
7/1/2021 8:47	GCMS_210630048.D	E210606-13		not reported	5.69	-0.01	-0.01		51819	79%	85.2%	102.0%
7/1/2021 9:07	GCMS_210630049.D	CAL BLK		not reported	5.69	-0.01	-0.01		57161	87%	94.0%	112.5%
7/1/2021 9:28	GCMS_210630050.D	E210606-14		not reported	5.7	0.00	0.00		56831	87%	93.5%	111.8%
7/1/2021 9:48	GCMS_210630051.D	E210606-15		not reported	5.69	-0.01	-0.01		51155	78%	84.1%	100.7%
7/1/2021 10:09	GCMS_210630052.D	E210606-16		not reported	5.7	0.00	0.00		58705	90%	96.5%	115.5%
	GCMS_210630053.D	CAL BLK		not reported	5.7	0.00	0.00		61496	94%	101.1%	121.0%
7/1/2021 10:50	GCMS_210630054.D	CCV 25 ppb		not reported	5.69	-0.01	-0.01		50817	78%		100.0%

Date Acquired	Data File Name	Sample Name	Misc Info	Comment	Tetrahydrofuran-d8 (RT ±0.17)			Tetrahydrofuran-d8 (Area 50-200%)			
						vs ICAL LS	vs O CCV		vs ICAL LS	vs O CCV	vs C CCV
7/7/2021 9:14	GCMS_210707001.D	DCM		not reported	0						
7/7/2021 9:34	GCMS_210707002.D	DCM		not reported	0						
7/7/2021 9:56	GCMS_210707003.D	DCM		not reported	0						
7/7/2021 11:35	GCMS_210707004.D	DCM		not reported	0						
7/7/2021 11:56	GCMS_210707005.D	DCM		not reported	0						
7/7/2021 12:17	GCMS_210707006.D	BFB Tune 1 ppm		not reported	0						
7/7/2021 12:38	GCMS_210707007.D	Open CCV 25 ppb		not reported	5.69	-0.01	0.00		44374	68%	100.0%
7/7/2021 13:00	GCMS_210707008.D	Cal BLK			0						
7/7/2021 15:15	GCMS_210707011.D	BFB Tune 1 ppm		ok	0						
7/7/2021 15:36	GCMS_210707012.D	Open CCV 25 ppb		Pass	5.7	0.00			42722	65%	96.3%
7/7/2021 15:57	GCMS_210707013.D	CAL BLK		not reported	5.68	-0.02	-0.01		44553	68%	100.4%
7/7/2021 16:18	GCMS_210707014.D	E21G004-BLK1			5.68	-0.02	-0.01		39141	60%	88.2%
7/7/2021 16:40	GCMS_210707015.D	E21G004-MRL1			5.7	0.00	0.01		45200	69%	101.9%
7/7/2021 17:01	GCMS_210707016.D	E21G004-BS1			5.69	-0.01	0.00		42273	64%	95.3%
7/7/2021 17:22	GCMS_210707017.D	E21G004-BSD1			5.69	-0.01	0.00		39720	61%	89.5%
7/7/2021 17:44	GCMS_210707018.D	E21O602-02RE1			5.69	-0.01	0.00		35563	54%	80.1%
7/7/2021 18:05	GCMS_210707019.D	E21O602-03RE1			5.69	-0.01	0.00		34766	53%	78.3%
7/7/2021 18:26	GCMS_210707020.D	E21O602-04RE1			5.69	-0.01	0.00		42530	65%	95.8%
7/7/2021 18:47	GCMS_210707021.D	E21O602-05RE1			5.69	-0.01	0.00		40155	61%	90.5%
7/7/2021 19:08	GCMS_210707022.D	E21O602-06RE1			5.69	-0.01	0.00		36775	56%	82.9%
7/7/2021 19:29	GCMS_210707023.D	E21O602-07RE1			5.69	-0.01	0.00		35202	54%	79.3%
7/7/2021 19:50	GCMS_210707024.D	E21G005-BLK1			5.68	-0.02	-0.01		35430	54%	79.8%
7/7/2021 20:12	GCMS_210707025.D	E21G005-MRL1			5.7	0.00	0.01		46839	71%	105.6%
7/7/2021 20:33	GCMS_210707026.D	E21G005-BS1			5.7	0.00	0.01		44426	68%	100.1%
7/7/2021 20:54	GCMS_210707027.D	E21G005-BSD1			5.7	0.00	0.01		47646	73%	107.4%
7/7/2021 21:16	GCMS_210707028.D	E21O603-01RE1			5.7	0.00	0.01		51621	79%	116.3%
7/7/2021 21:37	GCMS_210707029.D	E21O603-02RE1			5.7	0.00	0.01		49220	75%	110.9%
7/7/2021 21:58	GCMS_210707030.D	E21O603-03RE1			5.7	0.00	0.01		51445	78%	115.9%
7/7/2021 22:19	GCMS_210707031.D	E21O603-04RE1			5.7	0.00	0.01		53597	82%	120.8%
7/7/2021 22:40	GCMS_210707032.D	E21O603-05RE1			5.69	-0.01	0.00		36909	56%	83.2%
7/7/2021 23:01	GCMS_210707033.D	E21O603-06RE1			5.69	-0.01	0.00		39951	61%	90.0%
7/7/2021 23:22	GCMS_210707034.D	E21O603-07RE1		not reported	5.7	0.00	0.01		47278	72%	106.5%
7/7/2021 23:43	GCMS_210707035.D	DCM		not reported	0				0		
7/8/2021 0:04	GCMS_210707036.D	Open CCV 25 ppb			5.69	-0.01	0.00		41958	64%	100.0%

Work Order: E210602 and E21603  
 Batch:  
 Instrument: GCMS16

Analyst: Matt Kobus  
 Method: 14DIOXANE\_SIM\_PROCESS\_200624\_MAK  
 SOP: MS035 v2

### Surrogate Recovery

Date Acquired	Data File Name	Sample Name	Misc Info	Comment	1,4-Dioxane-d8 (64-109%)	1,4-Dioxane-d8 (64-109%)
6/24/2021 8:40	GCMS_210624001.D	DCM				
6/24/2021 9:00	GCMS_210624002.D	DCM				
6/24/2021 9:21	GCMS_210624003.D	DCM				
6/24/2021 9:41	GCMS_210624004.D	BFB Tune 1 ppm				
6/24/2021 10:24	GCMS_210624005.D	Open CCV 25 ppb				
6/24/2021 10:45	GCMS_210624006.D	CAL BLK				
6/24/2021 11:06	GCMS_210624007.D	ICAL L1 5 ppb				
6/24/2021 11:27	GCMS_210624008.D	ICAL L2 10 ppb				
6/24/2021 11:48	GCMS_210624009.D	ICAL L3 15 ppb				
6/24/2021 12:09	GCMS_210624010.D	ICAL L4 20 ppb				
6/24/2021 12:30	GCMS_210624011.D	ICAL L5 25 ppb				
6/24/2021 12:51	GCMS_210624012.D	ICAL L6 50 ppb				
6/24/2021 13:12	GCMS_210624013.D	ICAL L7 100 ppb				
6/24/2021 13:33	GCMS_210624014.D	ICAL L8 250 ppb				
6/24/2021 13:54	GCMS_210624015.D	ICAL L9 500 ppb				
6/24/2021 14:15	GCMS_210624016.D	ICAL L10 1000 ppb				
6/24/2021 14:36	GCMS_210624017.D	CAL BLK				
6/24/2021 14:57	GCMS_210624018.D	ICV 25ppb	ICV			

Date Acquired	Data File Name	Sample Name	Misc Info	Comment	1,4-Dioxane-d8 (64-109%)	1,4-Dioxane-d8 (64-109%)
6/30/2021 17:01	GCMS_210630003.D	DCM		not reported	0	
6/30/2021 17:22	GCMS_210630004.D	BFB Tune 1 ppm			0	
6/30/2021 17:45	GCMS_210630005.D	Open CCV 25 ppb			26.5	106%
6/30/2021 18:06	GCMS_210630006.D	CAL BLK		not reported	2.67	
6/30/2021 18:27	GCMS_210630007.D	E21F007-BLK1			26.34	105%
6/30/2021 18:48	GCMS_210630008.D	E21F007-MRL1			24.54	98%
6/30/2021 19:09	GCMS_210630009.D	E21F007-BS1			28.11	112%
6/30/2021 19:31	GCMS_210630010.D	E21F007-BSD1			25.49	102%
6/30/2021 19:53	GCMS_210630011.D	E210607-01			25.27	101%
6/30/2021 20:14	GCMS_210630012.D	E21F007-MS1	E210607-01 MS		26.41	106%
6/30/2021 20:35	GCMS_210630013.D	E21F007-MSD1	E210607-01 MSD		28.56	114%
6/30/2021 20:56	GCMS_210630014.D	E210602-01			25.59	102%
6/30/2021 21:18	GCMS_210630015.D	E210602-02		not reported	29.86	119%
6/30/2021 21:39	GCMS_210630016.D	E210602-03		not reported	26.52	106%
6/30/2021 22:00	GCMS_210630017.D	E210602-05		not reported	26.12	104%

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6/30/2021 22:21	GCMS_210630018.D	E210602-06		not reported	29.47	118%
6/30/2021 22:42	GCMS_210630019.D	E210602-07		not reported	27.94	112%
6/30/2021 23:03	GCMS_210630020.D	E210603-01		not reported	23.86	95%
6/30/2021 23:24	GCMS_210630021.D	E210603-02		not reported	35.69	143%
6/30/2021 23:45	GCMS_210630022.D	E210603-03		not reported	29.33	117%
7/1/2021 0:06	GCMS_210630023.D	E210603-04		not reported	28.19	113%
7/1/2021 0:27	GCMS_210630024.D	E210603-05		not reported	27.85	111%
7/1/2021 0:48	GCMS_210630025.D	E210603-06		not reported	27.63	111%
7/1/2021 1:09	GCMS_210630026.D	BFB Tune 1 ppm				
7/1/2021 1:30	GCMS_210630027.D	CCV 25 ppb			26.7	107%
7/1/2021 1:51	GCMS_210630028.D	CAL BLK		not reported	2.57	
7/1/2021 2:12	GCMS_210630029.D	E21F008-BLK1		not reported	26.83	107%
7/1/2021 2:33	GCMS_210630030.D	E21F008-MRL1		not reported	28.47	114%
7/1/2021 2:54	GCMS_210630031.D	E21F008-BS1		not reported	28.79	115%
7/1/2021 3:15	GCMS_210630032.D	E21F008-BSD1		not reported	30.59	122%
7/1/2021 3:36	GCMS_210630033.D	E210602-04		not reported	28.09	112%
7/1/2021 3:57	GCMS_210630034.D	E21F008-MS1	E210602-04 MS	not reported	29.24	117%
7/1/2021 4:18	GCMS_210630035.D	E21F008-MSD1	E210602-04 MSD	not reported	27.81	111%
7/1/2021 4:39	GCMS_210630036.D	E210606-01		not reported	28.04	112%
7/1/2021 5:00	GCMS_210630037.D	E210606-02		not reported	38.94	156%
7/1/2021 5:21	GCMS_210630038.D	E210606-03		not reported	28.56	114%
7/1/2021 5:41	GCMS_210630039.D	E210606-04		not reported	28.2	113%
7/1/2021 6:02	GCMS_210630040.D	E210606-05		not reported	28.59	114%
7/1/2021 6:23	GCMS_210630041.D	E210606-06		not reported	28.72	115%
7/1/2021 6:43	GCMS_210630042.D	E210606-07		not reported	29.11	116%
7/1/2021 7:04	GCMS_210630043.D	E210606-08		not reported	30.65	123%
7/1/2021 7:25	GCMS_210630044.D	E210606-09		not reported	29.63	119%
7/1/2021 7:45	GCMS_210630045.D	E210606-10		not reported	29.33	117%
7/1/2021 8:06	GCMS_210630046.D	E210606-11		not reported	29.26	117%
7/1/2021 8:26	GCMS_210630047.D	E210606-12		not reported	27.48	110%
7/1/2021 8:47	GCMS_210630048.D	E210606-13		not reported	30.52	122%
7/1/2021 9:07	GCMS_210630049.D	CAL BLK		not reported	0	
7/1/2021 9:28	GCMS_210630050.D	E210606-14		not reported	29.45	118%
7/1/2021 9:48	GCMS_210630051.D	E210606-15		not reported	30.01	120%
7/1/2021 10:09	GCMS_210630052.D	E210606-16		not reported	27.03	108%
	GCMS_210630053.D	CAL BLK		not reported	0	
7/1/2021 10:50	GCMS_210630054.D	CCV 25 ppb		not reported	25.72	103%

Date Acquired	Data File Name	Sample Name	Misc Info	Comment	1,4-Dioxane-d8 (64-109%)	1,4-Dioxane-d8 (64-109%)
7/7/2021 9:14	GCMS_210707001.D	DCM		not reported		
7/7/2021 9:34	GCMS_210707002.D	DCM		not reported		
7/7/2021 9:56	GCMS_210707003.D	DCM		not reported		

7/7/2021 11:35	GCMS_210707004.D	DCM		not reported		
7/7/2021 11:56	GCMS_210707005.D	DCM		not reported		
7/7/2021 12:17	GCMS_210707006.D	BFB Tune 1 ppm				
7/7/2021 12:38	GCMS_210707007.D	Open CCV 25 ppb			25.12	
7/7/2021 13:00	GCMS_210707008.D	Cal BLK			0	
7/7/2021 15:15	GCMS_210707011.D	BFB Tune 1 ppm		ok	0	
7/7/2021 15:36	GCMS_210707012.D	Open CCV 25 ppb		Pass	26.12	
7/7/2021 15:57	GCMS_210707013.D	CAL BLK		not reported	3.03	
7/7/2021 16:18	GCMS_210707014.D	E21G004-BLK1			26.66	107%
7/7/2021 16:40	GCMS_210707015.D	E21G004-MRL1			25.6	102%
7/7/2021 17:01	GCMS_210707016.D	E21G004-BS1			24.33	97%
7/7/2021 17:22	GCMS_210707017.D	E21G004-BSD1			25.81	103%
7/7/2021 17:44	GCMS_210707018.D	E210602-02RE1			27.22	109%
7/7/2021 18:05	GCMS_210707019.D	E210602-03RE1			28.01	112%
7/7/2021 18:26	GCMS_210707020.D	E210602-04RE1			24.31	97%
7/7/2021 18:47	GCMS_210707021.D	E210602-05RE1			25.68	103%
7/7/2021 19:08	GCMS_210707022.D	E210602-06RE1			25.01	100%
7/7/2021 19:29	GCMS_210707023.D	E210602-07RE1			26.99	108%
7/7/2021 19:50	GCMS_210707024.D	E21G005-BLK1			25.54	102%
7/7/2021 20:12	GCMS_210707025.D	E21G005-MRL1			24.94	100%
7/7/2021 20:33	GCMS_210707026.D	E21G005-BS1			24.79	99%
7/7/2021 20:54	GCMS_210707027.D	E21G005-BSD1			22.82	91%
7/7/2021 21:16	GCMS_210707028.D	E210603-01RE1			22.69	91%
7/7/2021 21:37	GCMS_210707029.D	E210603-02RE1			24.3	97%
7/7/2021 21:58	GCMS_210707030.D	E210603-03RE1			24.1	96%
7/7/2021 22:19	GCMS_210707031.D	E210603-04RE1			25.39	102%
7/7/2021 22:40	GCMS_210707032.D	E210603-05RE1			27.39	110%
7/7/2021 23:01	GCMS_210707033.D	E210603-06RE1			29.39	118%
7/7/2021 23:22	GCMS_210707034.D	E210603-07RE1			24.73	99%
7/7/2021 23:43	GCMS_210707035.D	DCM		not reported	0	
7/8/2021 0:04	GCMS_210707036.D	Open CCV 25 ppb			27.06	108%

**Work Order:** E210602 and E21603  
**Batch:**  
**Instrument:** GCMS16

**Analyst:** Matt Kobus  
**Method:** 14DIOXANE\_SIM\_PROCESS\_200624\_MAK  
**SOP:** MS035 v2

# Surrogate Recovery

Date Acquired	Data File Name	Sample Name	Misc Info	Comment	1,4-Dioxane-d8 (64-109%)	1,4-Dioxane-d8 (64-109%)
6/24/2021 8:40	GCMS_210624001.D	DCM				
6/24/2021 9:00	GCMS_210624002.D	DCM				
6/24/2021 9:21	GCMS_210624003.D	DCM				
6/24/2021 9:41	GCMS_210624004.D	BFB Tune 1 ppm				
6/24/2021 10:24	GCMS_210624005.D	Open CCV 25 ppb				
6/24/2021 10:45	GCMS_210624006.D	CAL BLK				
6/24/2021 11:06	GCMS_210624007.D	ICAL L1 5 ppb				
6/24/2021 11:27	GCMS_210624008.D	ICAL L2 10 ppb				
6/24/2021 11:48	GCMS_210624009.D	ICAL L3 15 ppb				
6/24/2021 12:09	GCMS_210624010.D	ICAL L4 20 ppb				
6/24/2021 12:30	GCMS_210624011.D	ICAL L5 25 ppb				
6/24/2021 12:51	GCMS_210624012.D	ICAL L6 50 ppb				
6/24/2021 13:12	GCMS_210624013.D	ICAL L7 100 ppb				
6/24/2021 13:33	GCMS_210624014.D	ICAL L8 250 ppb				
6/24/2021 13:54	GCMS_210624015.D	ICAL L9 500 ppb				
6/24/2021 14:15	GCMS_210624016.D	ICAL L10 1000 ppb				
6/24/2021 14:36	GCMS_210624017.D	CAL BLK				
6/24/2021 14:57	GCMS_210624018.D	ICV 25ppb	ICV			

Date Acquired	Data File Name	Sample Name	Misc Info	Comment	1,4-Dioxane-d8 (64-109%)	1,4-Dioxane-d8 (64-109%)
6/30/2021 17:01	GCMS_210630003.D	DCM		not reported	0	
6/30/2021 17:22	GCMS_210630004.D	BFB Tune 1 ppm			0	
6/30/2021 17:45	GCMS_210630005.D	Open CCV 25 ppb			26.5	106%
6/30/2021 18:06	GCMS_210630006.D	CAL BLK		not reported	2.67	
6/30/2021 18:27	GCMS_210630007.D	E21F007-BLK1			26.34	105%
6/30/2021 18:48	GCMS_210630008.D	E21F007-MRL1			24.54	98%
6/30/2021 19:09	GCMS_210630009.D	E21F007-BS1			28.11	112%
6/30/2021 19:31	GCMS_210630010.D	E21F007-BSD1			25.49	102%
6/30/2021 19:53	GCMS_210630011.D	E210607-01			25.27	101%

6/30/2021 20:14	GCMS_210630012.D	E21F007-MS1	E210607-01 MS		26.41	106%
6/30/2021 20:35	GCMS_210630013.D	E21F007-MSD1	E210607-01 MSD		28.56	114%
6/30/2021 20:56	GCMS_210630014.D	E210602-01			25.59	102%
6/30/2021 21:18	GCMS_210630015.D	E210602-02		not reported	29.86	119%
6/30/2021 21:39	GCMS_210630016.D	E210602-03		not reported	26.52	106%
6/30/2021 22:00	GCMS_210630017.D	E210602-05		not reported	26.12	104%
6/30/2021 22:21	GCMS_210630018.D	E210602-06		not reported	29.47	118%
6/30/2021 22:42	GCMS_210630019.D	E210602-07		not reported	27.94	112%
6/30/2021 23:03	GCMS_210630020.D	E210603-01		not reported	23.86	95%
6/30/2021 23:24	GCMS_210630021.D	E210603-02		not reported	35.69	143%
6/30/2021 23:45	GCMS_210630022.D	E210603-03		not reported	29.33	117%
7/1/2021 0:06	GCMS_210630023.D	E210603-04		not reported	28.19	113%
7/1/2021 0:27	GCMS_210630024.D	E210603-05		not reported	27.85	111%
7/1/2021 0:48	GCMS_210630025.D	E210603-06		not reported	27.63	111%
7/1/2021 1:09	GCMS_210630026.D	BFB Tune 1 ppm				
7/1/2021 1:30	GCMS_210630027.D	CCV 25 ppb			26.7	107%
7/1/2021 1:51	GCMS_210630028.D	CAL BLK		not reported	2.57	
7/1/2021 2:12	GCMS_210630029.D	E21F008-BLK1		not reported	26.83	107%
7/1/2021 2:33	GCMS_210630030.D	E21F008-MRL1		not reported	28.47	114%
7/1/2021 2:54	GCMS_210630031.D	E21F008-BS1		not reported	28.79	115%
7/1/2021 3:15	GCMS_210630032.D	E21F008-BSD1		not reported	30.59	122%
7/1/2021 3:36	GCMS_210630033.D	E210602-04		not reported	28.09	112%
7/1/2021 3:57	GCMS_210630034.D	E21F008-MS1	E210602-04 MS	not reported	29.24	117%
7/1/2021 4:18	GCMS_210630035.D	E21F008-MSD1	E210602-04 MSD	not reported	27.81	111%
7/1/2021 4:39	GCMS_210630036.D	E210606-01		not reported	28.04	112%
7/1/2021 5:00	GCMS_210630037.D	E210606-02		not reported	38.94	156%
7/1/2021 5:21	GCMS_210630038.D	E210606-03		not reported	28.56	114%
7/1/2021 5:41	GCMS_210630039.D	E210606-04		not reported	28.2	113%
7/1/2021 6:02	GCMS_210630040.D	E210606-05		not reported	28.59	114%
7/1/2021 6:23	GCMS_210630041.D	E210606-06		not reported	28.72	115%
7/1/2021 6:43	GCMS_210630042.D	E210606-07		not reported	29.11	116%
7/1/2021 7:04	GCMS_210630043.D	E210606-08		not reported	30.65	123%
7/1/2021 7:25	GCMS_210630044.D	E210606-09		not reported	29.63	119%
7/1/2021 7:45	GCMS_210630045.D	E210606-10		not reported	29.33	117%
7/1/2021 8:06	GCMS_210630046.D	E210606-11		not reported	29.26	117%
7/1/2021 8:26	GCMS_210630047.D	E210606-12		not reported	27.48	110%
7/1/2021 8:47	GCMS_210630048.D	E210606-13		not reported	30.52	122%
7/1/2021 9:07	GCMS_210630049.D	CAL BLK		not reported	0	
7/1/2021 9:28	GCMS_210630050.D	E210606-14		not reported	29.45	118%
7/1/2021 9:48	GCMS_210630051.D	E210606-15		not reported	30.01	120%

7/1/2021 10:09	GCMS_210630052.D	E210606-16		not reported	27.03	108%
	GCMS_210630053.D	CAL BLK		not reported	0	
7/1/2021 10:50	GCMS_210630054.D	CCV 25 ppb		not reported	25.72	103%

Date Acquired	Data File Name	Sample Name	Misc Info	Comment	1,4-Dioxane-d8 (64-109%)	1,4-Dioxane-d8 (64-109%)
7/7/2021 9:14	GCMS_210707001.D	DCM		not reported		
7/7/2021 9:34	GCMS_210707002.D	DCM		not reported		
7/7/2021 9:56	GCMS_210707003.D	DCM		not reported		
7/7/2021 11:35	GCMS_210707004.D	DCM		not reported		
7/7/2021 11:56	GCMS_210707005.D	DCM		not reported		
7/7/2021 12:17	GCMS_210707006.D	BFB Tune 1 ppm				
7/7/2021 12:38	GCMS_210707007.D	Open CCV 25 ppb			25.12	
7/7/2021 13:00	GCMS_210707008.D	Cal BLK			0	
7/7/2021 15:15	GCMS_210707011.D	BFB Tune 1 ppm		ok	0	
7/7/2021 15:36	GCMS_210707012.D	Open CCV 25 ppb		Pass	26.12	
7/7/2021 15:57	GCMS_210707013.D	CAL BLK		not reported	3.03	
7/7/2021 16:18	GCMS_210707014.D	E21G004-BLK1			26.66	107%
7/7/2021 16:40	GCMS_210707015.D	E21G004-MRL1			25.6	102%
7/7/2021 17:01	GCMS_210707016.D	E21G004-BS1			24.33	97%
7/7/2021 17:22	GCMS_210707017.D	E21G004-BSD1			25.81	103%
7/7/2021 17:44	GCMS_210707018.D	E210602-02RE1			27.22	109%
7/7/2021 18:05	GCMS_210707019.D	E210602-03RE1			28.01	112%
7/7/2021 18:26	GCMS_210707020.D	E210602-04RE1			24.31	97%
7/7/2021 18:47	GCMS_210707021.D	E210602-05RE1			25.68	103%
7/7/2021 19:08	GCMS_210707022.D	E210602-06RE1			25.01	100%
7/7/2021 19:29	GCMS_210707023.D	E210602-07RE1			26.99	108%
7/7/2021 19:50	GCMS_210707024.D	E21G005-BLK1			25.54	102%
7/7/2021 20:12	GCMS_210707025.D	E21G005-MRL1			24.94	100%
7/7/2021 20:33	GCMS_210707026.D	E21G005-BS1			24.79	99%
7/7/2021 20:54	GCMS_210707027.D	E21G005-BSD1			22.82	91%
7/7/2021 21:16	GCMS_210707028.D	E210603-01RE1			22.69	91%
7/7/2021 21:37	GCMS_210707029.D	E210603-02RE1			24.3	97%
7/7/2021 21:58	GCMS_210707030.D	E210603-03RE1			24.1	96%
7/7/2021 22:19	GCMS_210707031.D	E210603-04RE1			25.39	102%
7/7/2021 22:40	GCMS_210707032.D	E210603-05RE1			27.39	110%
7/7/2021 23:01	GCMS_210707033.D	E210603-06RE1			29.39	118%
7/7/2021 23:22	GCMS_210707034.D	E210603-07RE1			24.73	99%

7/7/2021 23:43	GCMS_210707035.D	DCM		not reported	0	
7/8/2021 0:04	GCMS_210707036.D	Open CCV 25 ppb			27.06	108%

## **Calibration Data**

Data Path : D:\MassHunter\Data\210630Amak\  
Data File : GCMS\_210630005.D  
Acq On : 30 Jun 2021 05:45 pm  
Operator :  
Sample : Open CCV 25 ppb  
Misc :  
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 01 11:29:46 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
Max. RRF Dev : 30% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	TETRAHYDROFURAN-D8	50.000	50.000	0.0	95	0.00
2 S	1,4-Dioxane-d8	25.000	26.504	-6.0	110	0.00
3 M	1,4-Dioxane	25.000	27.083	-8.3	108	0.00

MAK 8/10/2021

(#) = Out of Range SPCC's out = 0 CCC's out = 0

REVIEWED  
By Bruce Gallant at 8:30 am, Aug 17, 2021

Data Path : D:\MassHunter\Data\210630Amak\  
Data File : GCMS\_210630005.D  
Acq On : 30 Jun 2021 05:45 pm  
Operator :  
Sample : Open CCV 25 ppb  
Misc :  
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 01 11:29:46 2021

Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M

Quant Title : Initial Calibration of 1,4-Dioxane 021317

QLast Update : Thu Jun 24 15:10:43 2021

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	5.701	46	62222	50.00	ug/L	# 0.00
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	7.818	96	26561	26.50	ug/L	0.00
<hr/>						
Target Compounds				Qvalue		
3) 1,4-Dioxane	7.896	88	28581	27.08	ug/L	75
<hr/>						

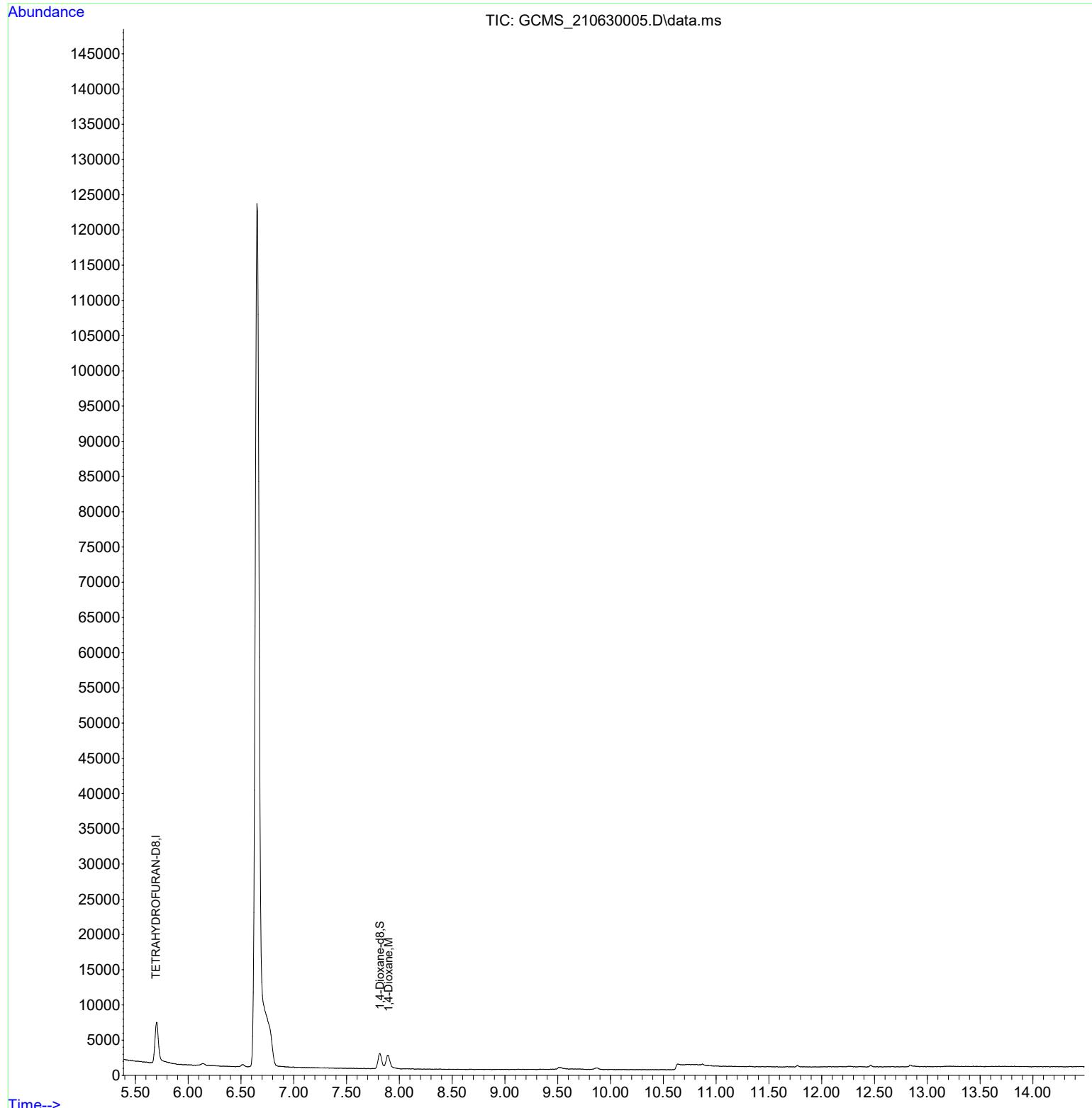
MAK 8/10/2021

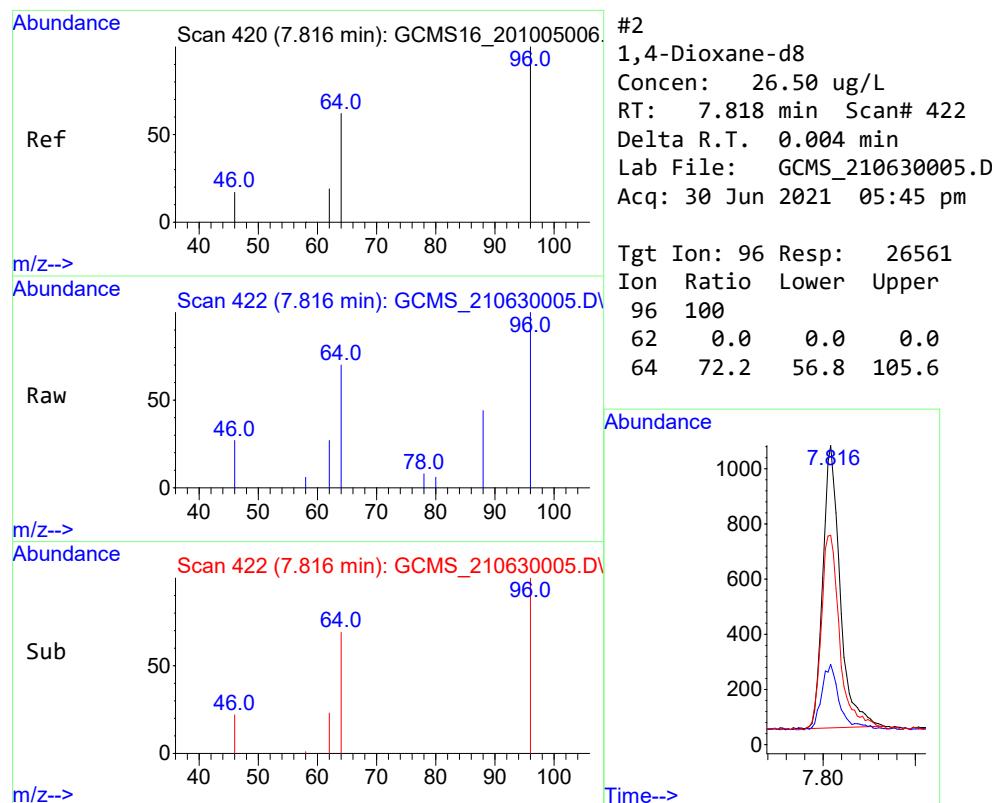
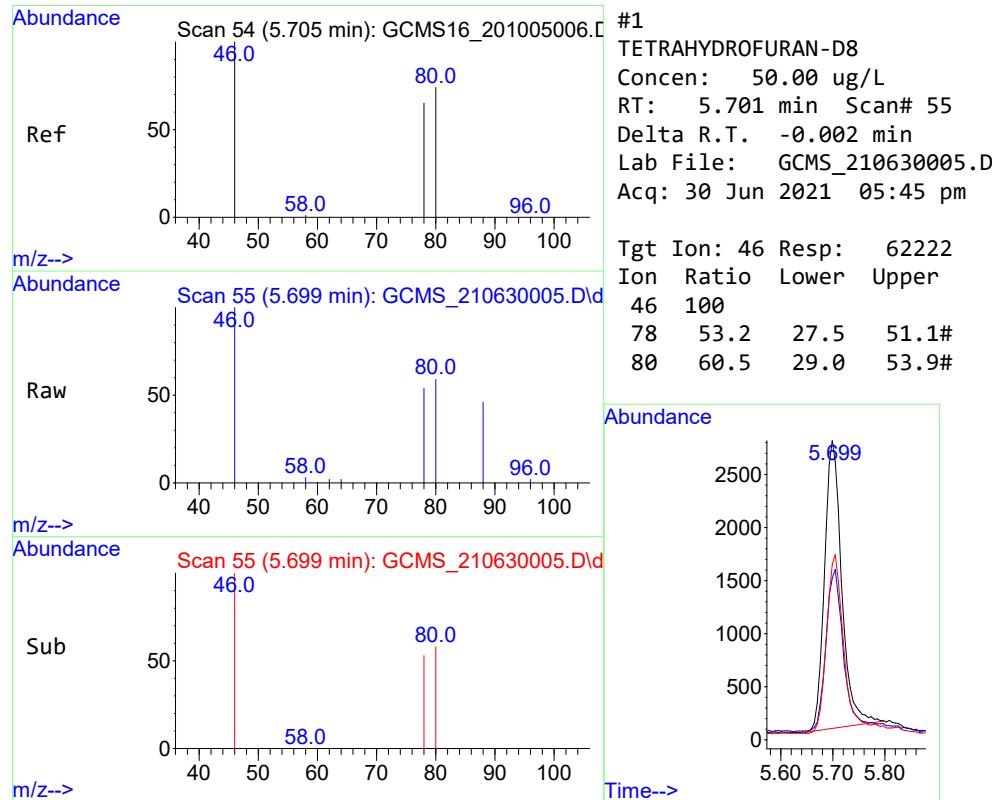
(#) = qualifier out of range (m) = manual integration (+) = signals summed

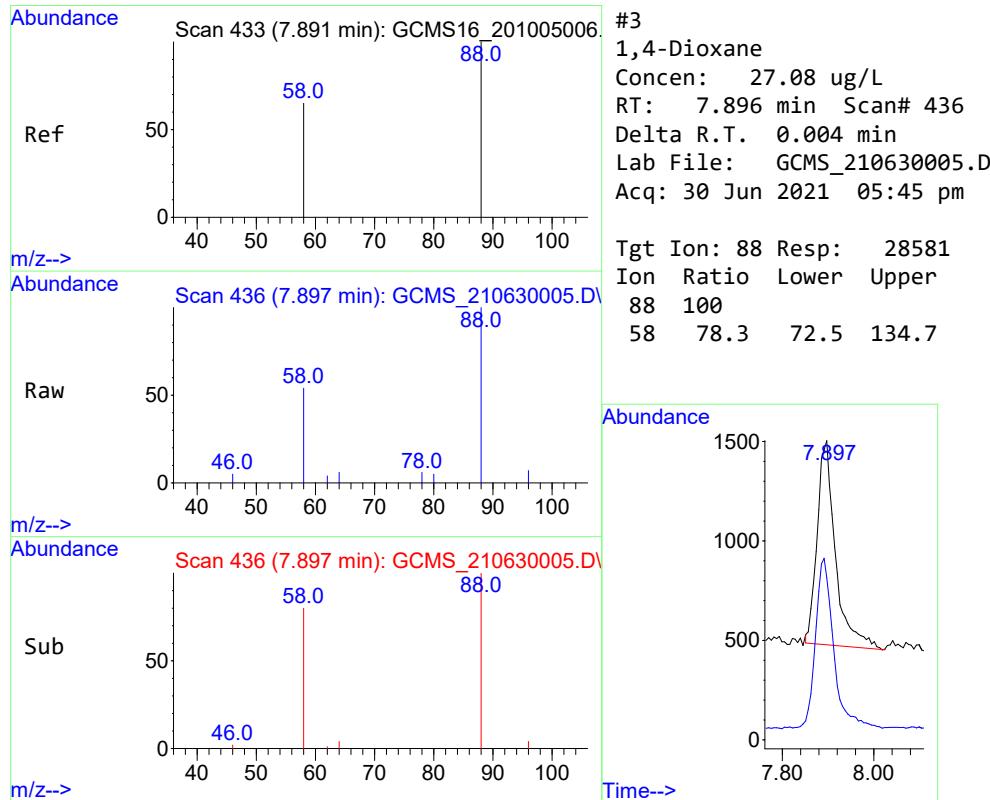
REVIEWED  
By Bruce Gallant at 8:30 am, Aug 17, 2021

Data Path : D:\MassHunter\Data\210630Amak\  
Data File : GCMS\_210630005.D  
Acq On : 30 Jun 2021 05:45 pm  
Operator :  
Sample : Open CCV 25 ppb  
Misc :  
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 01 11:29:46 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration







Data Path : D:\MassHunter\Data\210630Amak\  
Data File : GCMS\_210630027.D  
Acq On : 01 Jul 2021 01:30 am  
Operator :  
Sample : CCV 25 ppb  
Misc :  
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 01 11:31:50 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
Max. RRF Dev : 30% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area	% Dev(min)
1 I	TETRAHYDROFURAN-D8	50.000	50.000	0.0	93	0.00
2 S	1,4-Dioxane-d8	25.000	26.700	-6.8	108	0.00
3 M	1,4-Dioxane	25.000	25.171	-0.7	98	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

MAK 8/10/2021

REVIEWED  
By Bruce Gallant at 8:31 am, Aug 17, 2021

Data Path : D:\MassHunter\Data\210630Amak\  
Data File : GCMS\_210630027.D  
Acq On : 01 Jul 2021 01:30 am  
Operator :  
Sample : CCV 25 ppb  
Misc :  
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 01 11:31:50 2021

Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M

Quant Title : Initial Calibration of 1,4-Dioxane 021317

QLast Update : Thu Jun 24 15:10:43 2021

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	5.697	46	60808	50.00	ug/L	# 0.00
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	7.818	96	26150	26.70	ug/L	0.00
<hr/>						
Target Compounds				Qvalue		
3) 1,4-Dioxane	7.895	88	25959	25.17	ug/L	79
<hr/>						

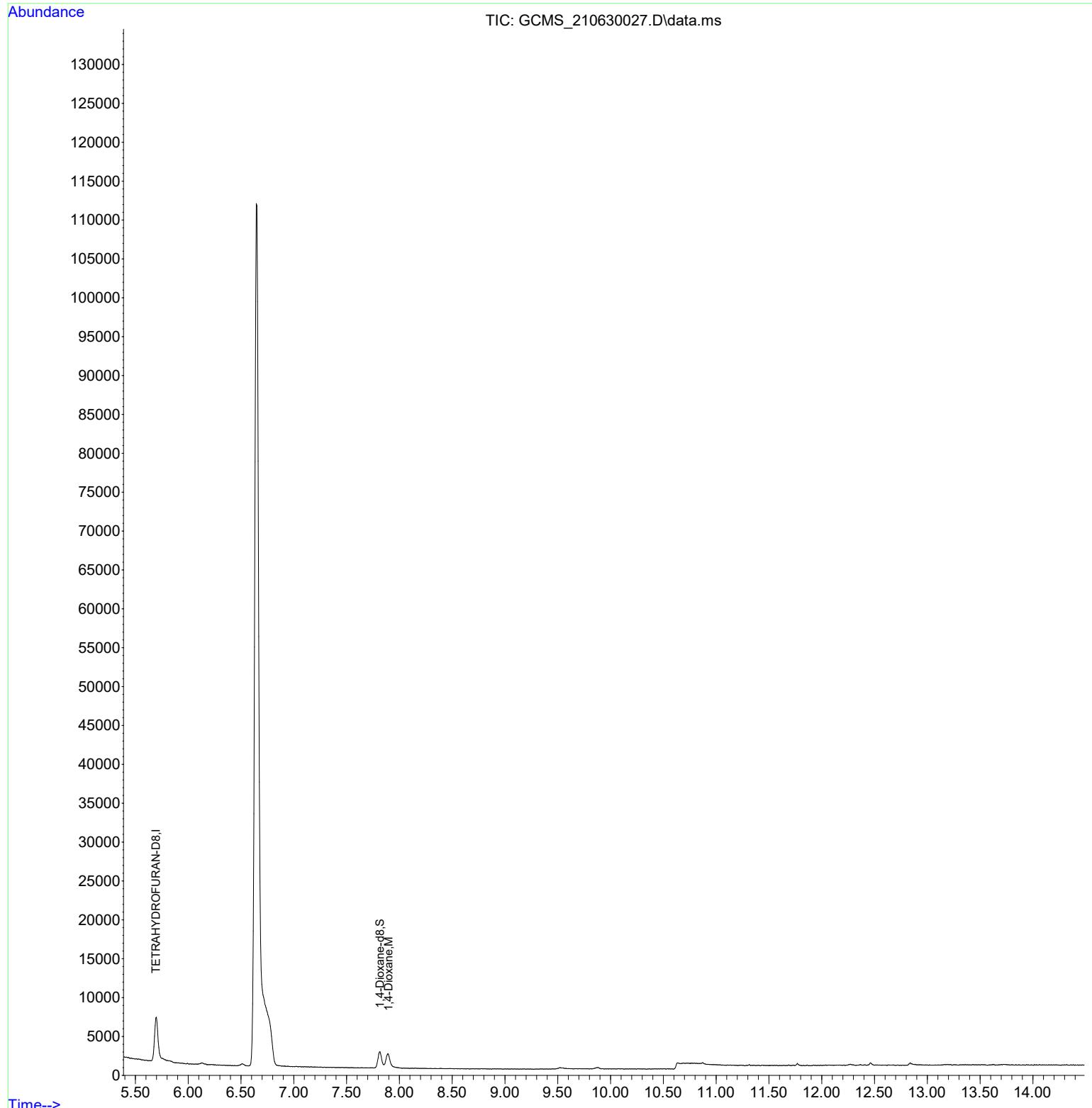
MAK 8/10/2021

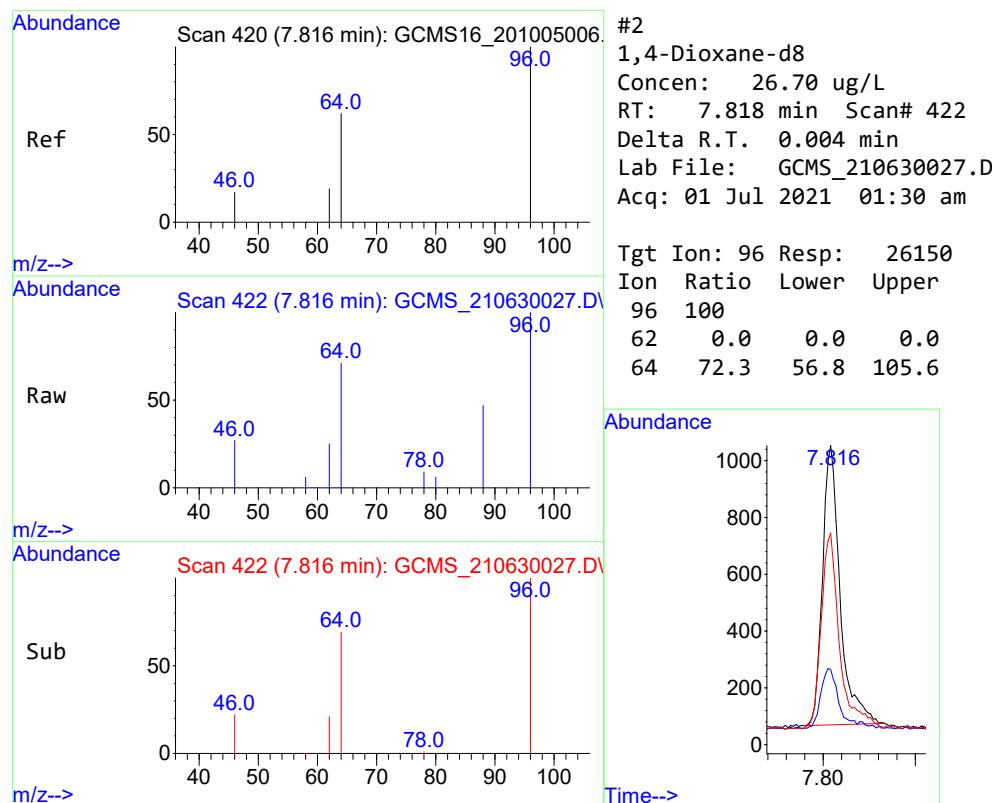
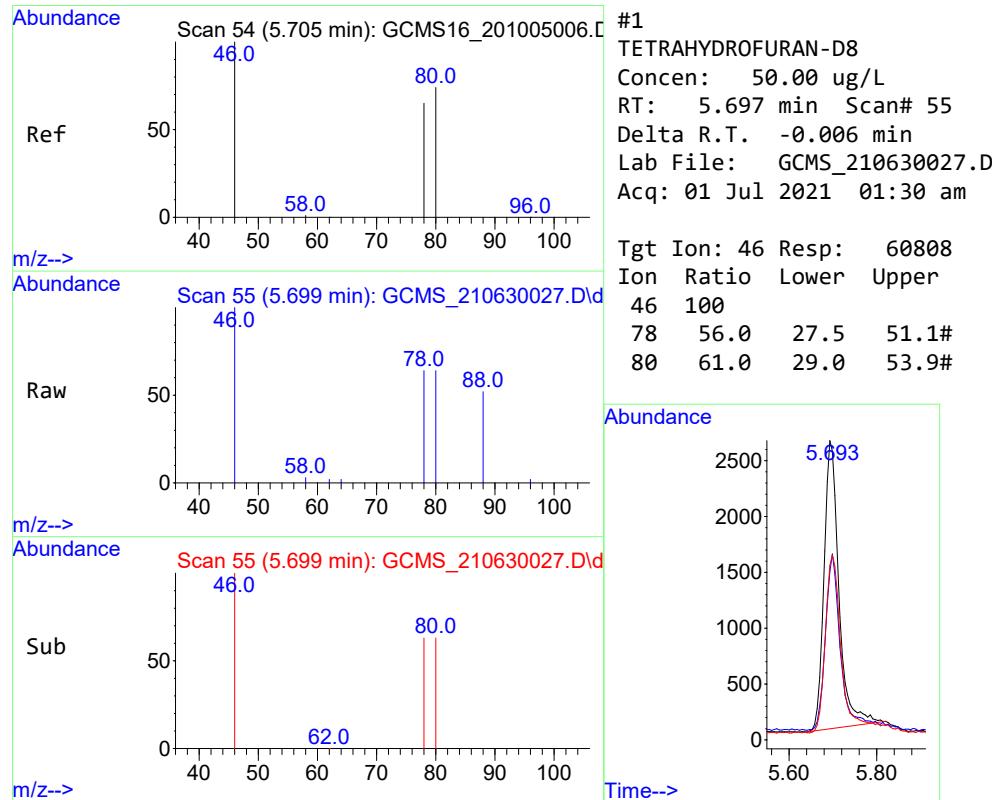
(#) = qualifier out of range (m) = manual integration (+) = signals summed

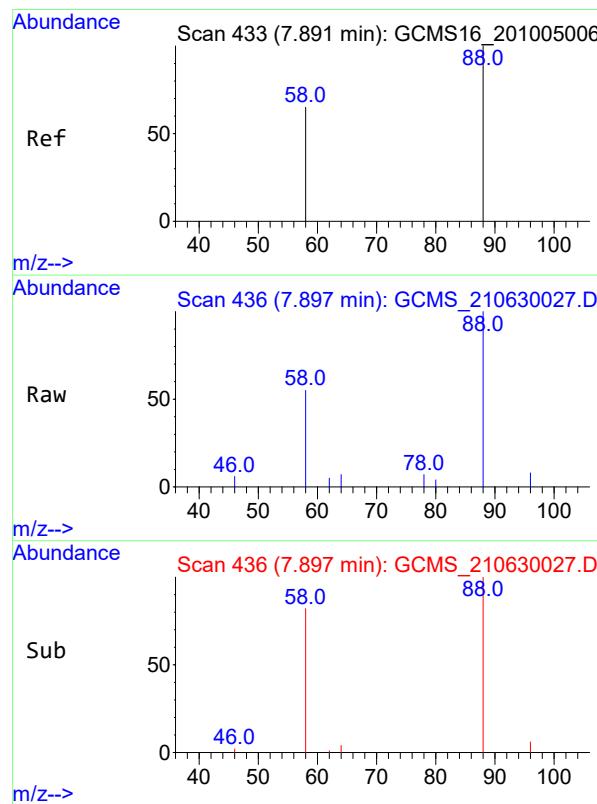
REVIEWED  
By Bruce Gallant at 8:31 am, Aug 17, 2021

Data Path : D:\MassHunter\Data\210630Amak\  
Data File : GCMS\_210630027.D  
Acq On : 01 Jul 2021 01:30 am  
Operator :  
Sample : CCV 25 ppb  
Misc :  
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 01 11:31:50 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration

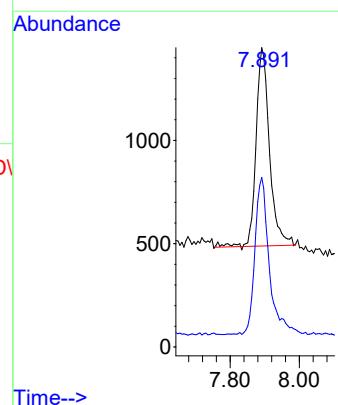






#3  
 1,4-Dioxane  
 Concen: 25.17 ug/L  
 RT: 7.895 min Scan# 436  
 Delta R.T. 0.003 min  
 Lab File: GCMS\_210630027.D  
 Acq: 01 Jul 2021 01:30 am

Tgt Ion: 88 Resp: 25959  
 Ion Ratio Lower Upper  
 88 100  
 58 82.0 72.5 134.7



Data Path : D:\MassHunter\Data\210707mak\  
Data File : GCMS\_210707036.D  
Acq On : 08 Jul 2021 12:04 am  
Operator :  
Sample : Open CCV 25 ppb  
Misc :  
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 08 09:12:12 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
Max. RRF Dev : 30% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area	% Dev(min)
1 I	TETRAHYDROFURAN-D8	50.000	50.000	0.0	64	0.00
2 S	1,4-Dioxane-d8	25.000	27.062	-8.2	76	0.00
3 M	1,4-Dioxane	25.000	26.659	-6.6	72	0.00

MAK 8/10/2021

(#) = Out of Range SPCC's out = 0 CCC's out = 0

REVIEWED  
By Bruce Gallant at 8:31 am, Aug 17, 2021

Data Path : D:\MassHunter\Data\210707mak\  
Data File : GCMS\_210707036.D  
Acq On : 08 Jul 2021 12:04 am  
Operator :  
Sample : Open CCV 25 ppb  
Misc :  
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 08 09:12:12 2021

Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M

Quant Title : Initial Calibration of 1,4-Dioxane 021317

QLast Update : Thu Jun 24 15:10:43 2021

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	5.693	46	41958m	50.00	ug/L	0.00
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	7.818	96	18288	27.06	ug/L	0.00
<hr/>						
Target Compounds				Qvalue		
3) 1,4-Dioxane	7.897	88	18971	26.66	ug/L	72
<hr/>						

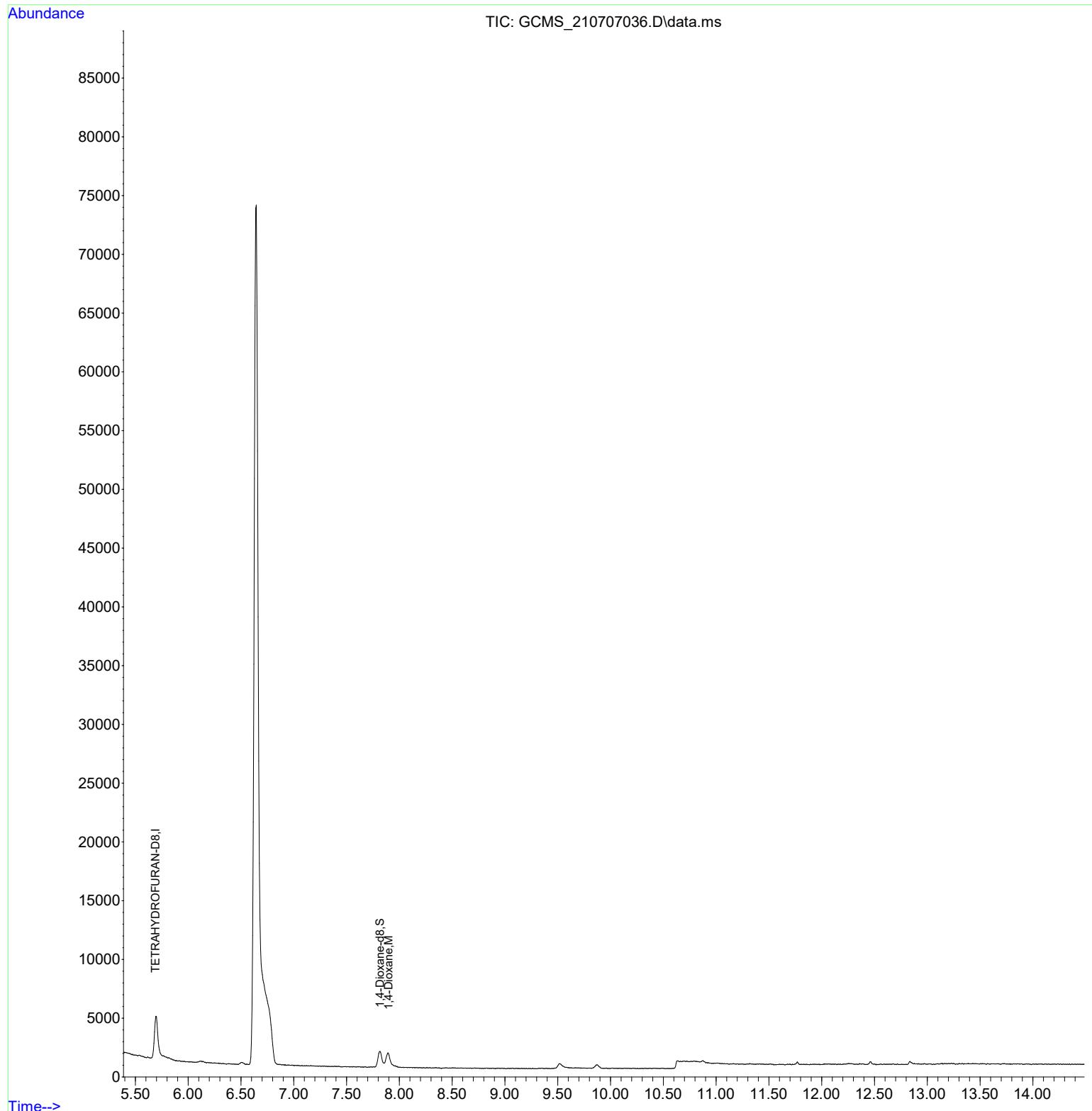
MAK 8/10/2021

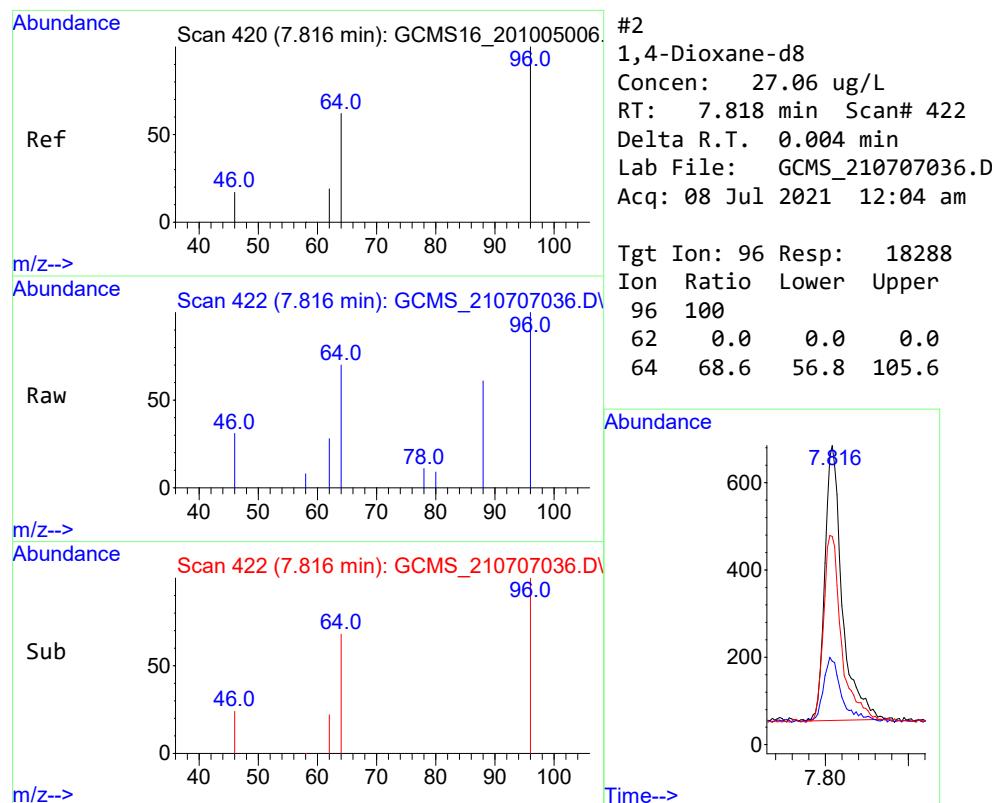
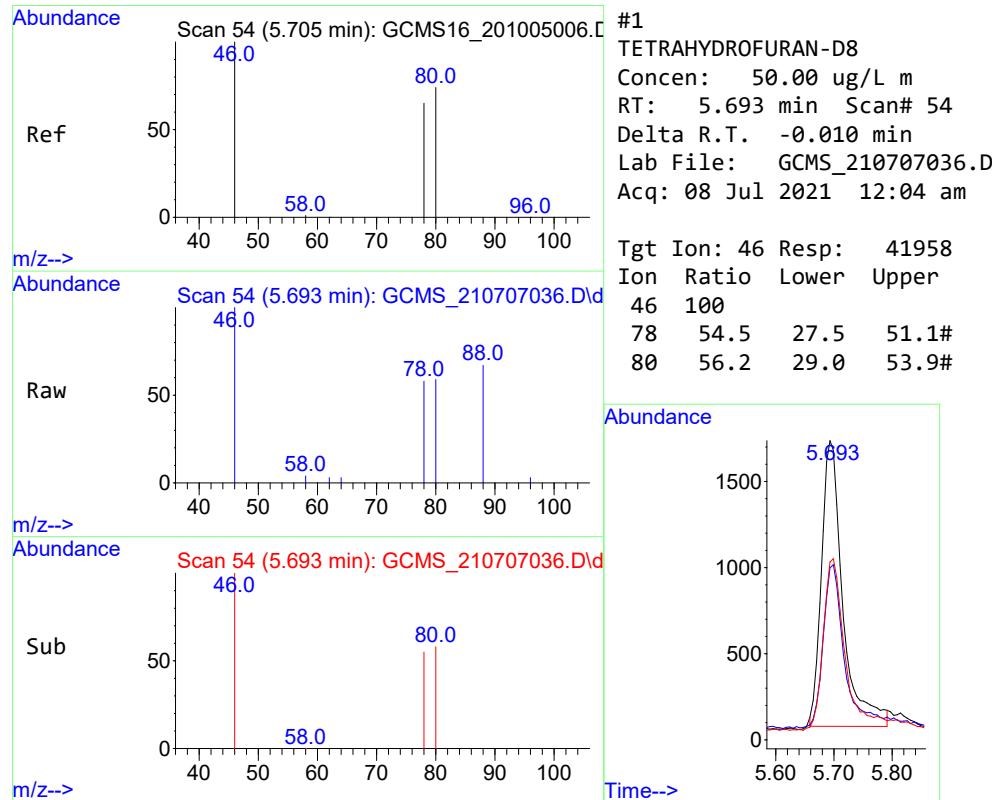
(#) = qualifier out of range (m) = manual integration (+) = signals summed

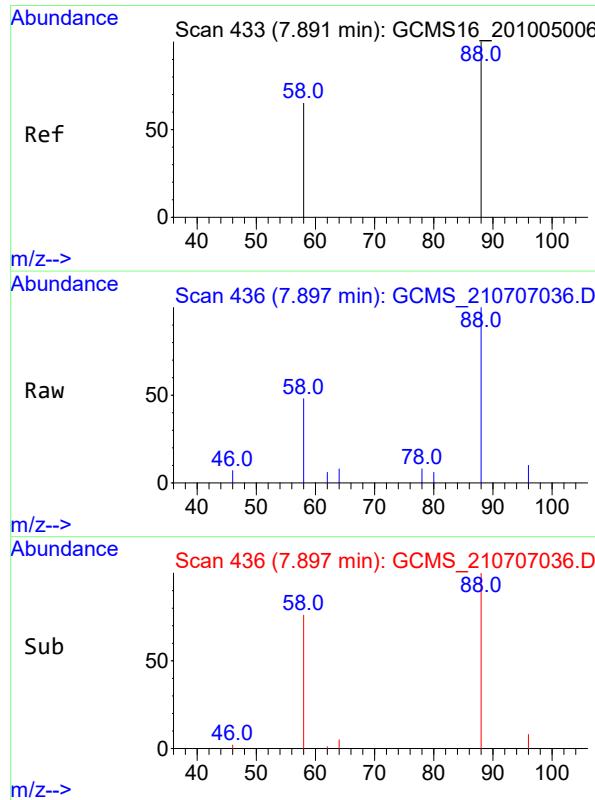
REVIEWED  
By Bruce Gallant at 8:32 am, Aug 17, 2021

Data Path : D:\MassHunter\Data\210707mak\  
Data File : GCMS\_210707036.D  
Acq On : 08 Jul 2021 12:04 am  
Operator :  
Sample : Open CCV 25 ppb  
Misc :  
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 08 09:12:12 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration

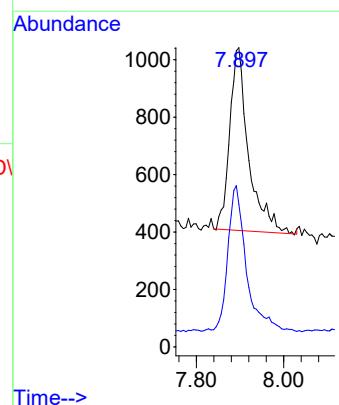






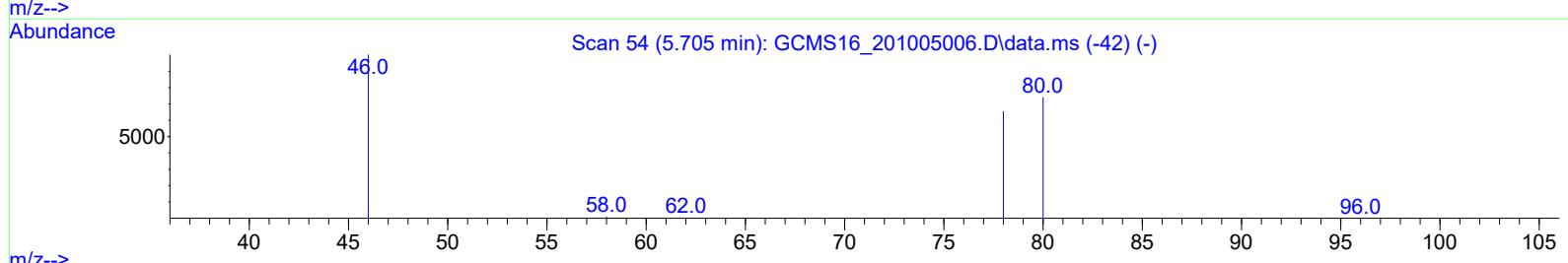
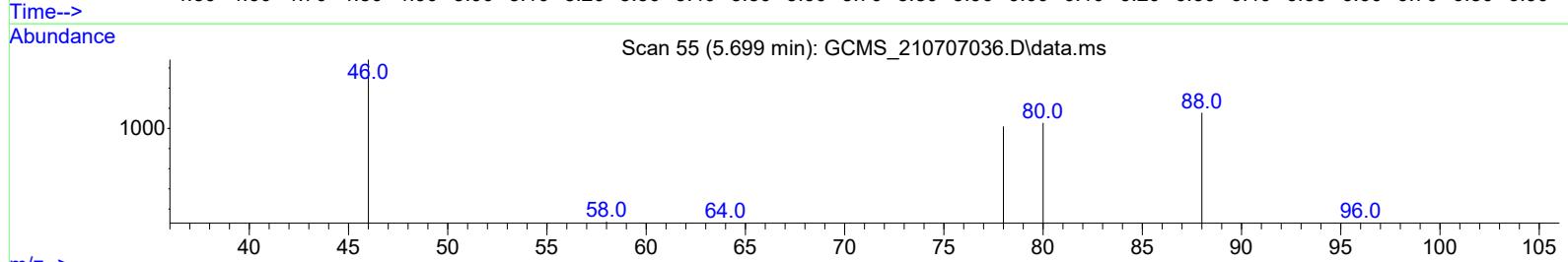
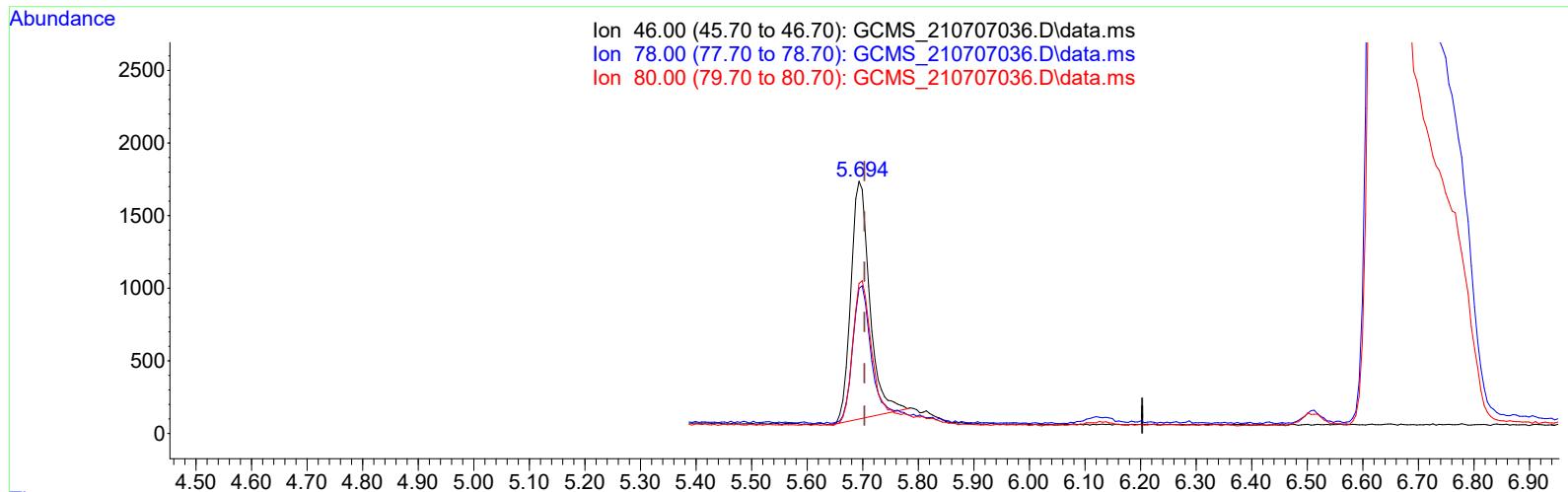
#3  
 1,4-Dioxane  
 Concen: 26.66 ug/L  
 RT: 7.897 min Scan# 436  
 Delta R.T. 0.005 min  
 Lab File: GCMS\_210707036.D  
 Acq: 08 Jul 2021 12:04 am

Tgt Ion: 88 Resp: 18971  
 Ion Ratio Lower Upper  
 88 100  
 58 75.3 72.5 134.7



Data Path : D:\MassHunter\GCMS\1\data\210707mak\  
 Data File : GCMS\_210707036.D  
 Acq On : 08 Jul 2021 12:04 am  
 Operator :  
 Sample : Open CCV 25 ppb  
 Misc :  
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 08 09:12:12 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



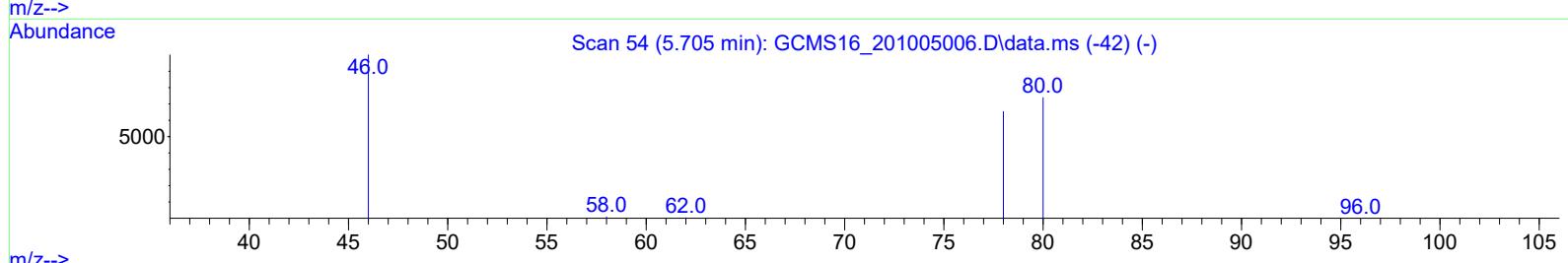
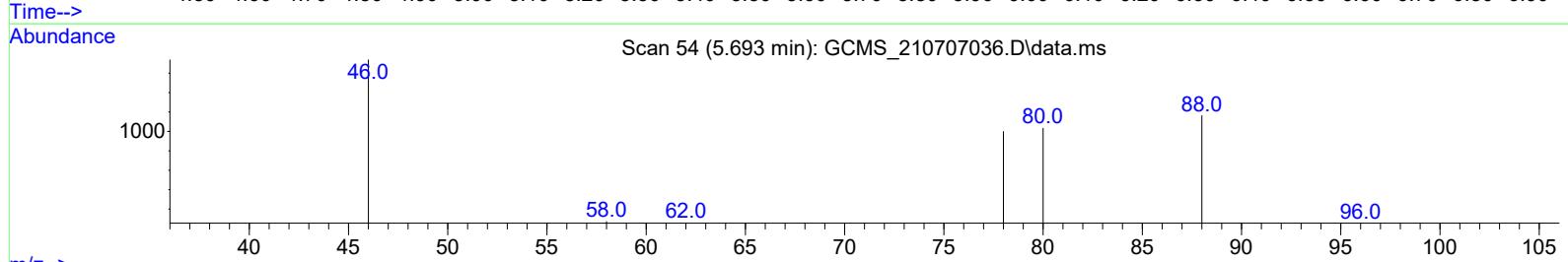
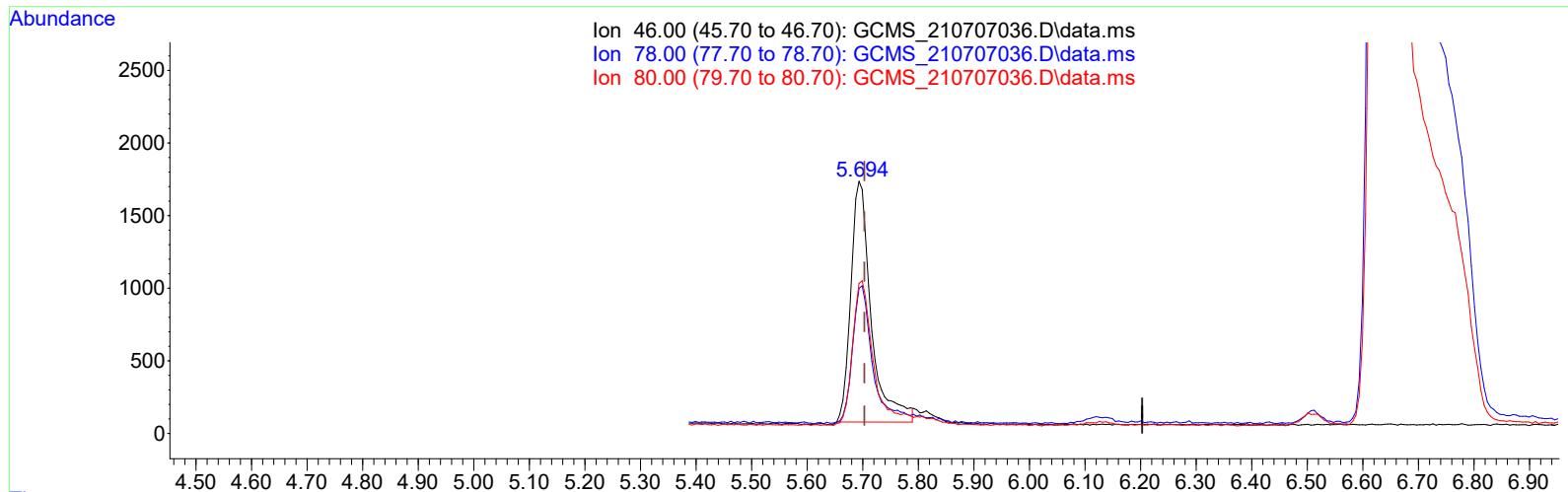
TIC: GCMS\_210707036.D\data.ms

(1) TETRAHYDROFURAN-D8 (I)  
 5.697min (-0.006) 50.00 ug/L  
 response 38428 Before I,S  
 MAK 8/10/2021

Ion	Exp%	Act%
46.00	100.00	100.00
78.00	39.30	59.49#
80.00	41.50	61.31#
0.00	0.00	0.00

Data Path : D:\MassHunter\Data\210707mak\  
 Data File : GCMS\_210707036.D  
 Acq On : 08 Jul 2021 12:04 am  
 Operator :  
 Sample : Open CCV 25 ppb  
 Misc :  
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 08 09:12:12 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210707036.D\data.ms

(1) TETRAHYDROFURAN-D8 (I)

5.693min (-0.010) 50.00 ug/L m

response 41958 After MAK 8/10/2021

Ion	Exp%	Act%
46.00	100.00	100.00
78.00	39.30	54.48#
80.00	41.50	56.16#
0.00	0.00	0.00

REVIEWED  
By Bruce Gallant at 8:32 am, Aug 17, 2021

Method Path : D:\MassHunter\Methods\Quant\  
Method File : 14Dioxane\_SIM\_Process\_210624\_mak.M  
Title : Initial Calibration of 1,4-Dioxane 021317  
Last Update : Thu Jun 24 15:10:43 2021  
Response Via : Initial Calibration

## Calibration Files

5 =GCMS\_210624007.D 10 =GCMS\_210624008.D 15 =GCMS\_210624009.D 20 =GCMS\_210624010.D 25 =GCMS\_210624011.D 50 =GCMS\_210624012.D  
100 =GCMS\_210624013.D 250 =GCMS\_210624014.D 500 =GCMS\_210624015.D 1000=GCMS\_210624016.D

Compound	5	10	15	20	25	50	100	250	500	1000	Avg	%RSD
<hr/>												
1) I TETRAHYDROFURAN-D8						-----ISTD-----						
2) S 1,4-Dioxane-d8	0.839	0.848	0.739	0.816	0.737	0.819	0.807	0.839	0.815	0.793	0.805	4.85
3) M 1,4-Dioxane	0.917	0.735	0.872	0.880	0.806	0.880	0.846	0.873	0.847	0.823	0.848	5.97

(MAK 08/10/2021)

(#) = Out of Range

REVIEWED

By Bruce Gallant at 8:04 am, Aug 17, 2021

Data Path : D:\MassHunter\GCMS\1\data\210624\_mak\  
Data File : GCMS\_210624007.D  
Acq On : 24 Jun 2021 11:06 am  
Operator :  
Sample : ICAL L1 5 ppb  
Misc :  
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 24 13:14:48 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Wed Jun 23 14:23:51 2021  
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	5.693	46	57145	50.00	ug/L	# 0.00
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	7.816	96	4797m	3.29	ug/L	0.00
<hr/>						
Target Compounds				Qvalue		
3) 1,4-Dioxane	7.891	88	5240m	3.75	ug/L	
<hr/>						

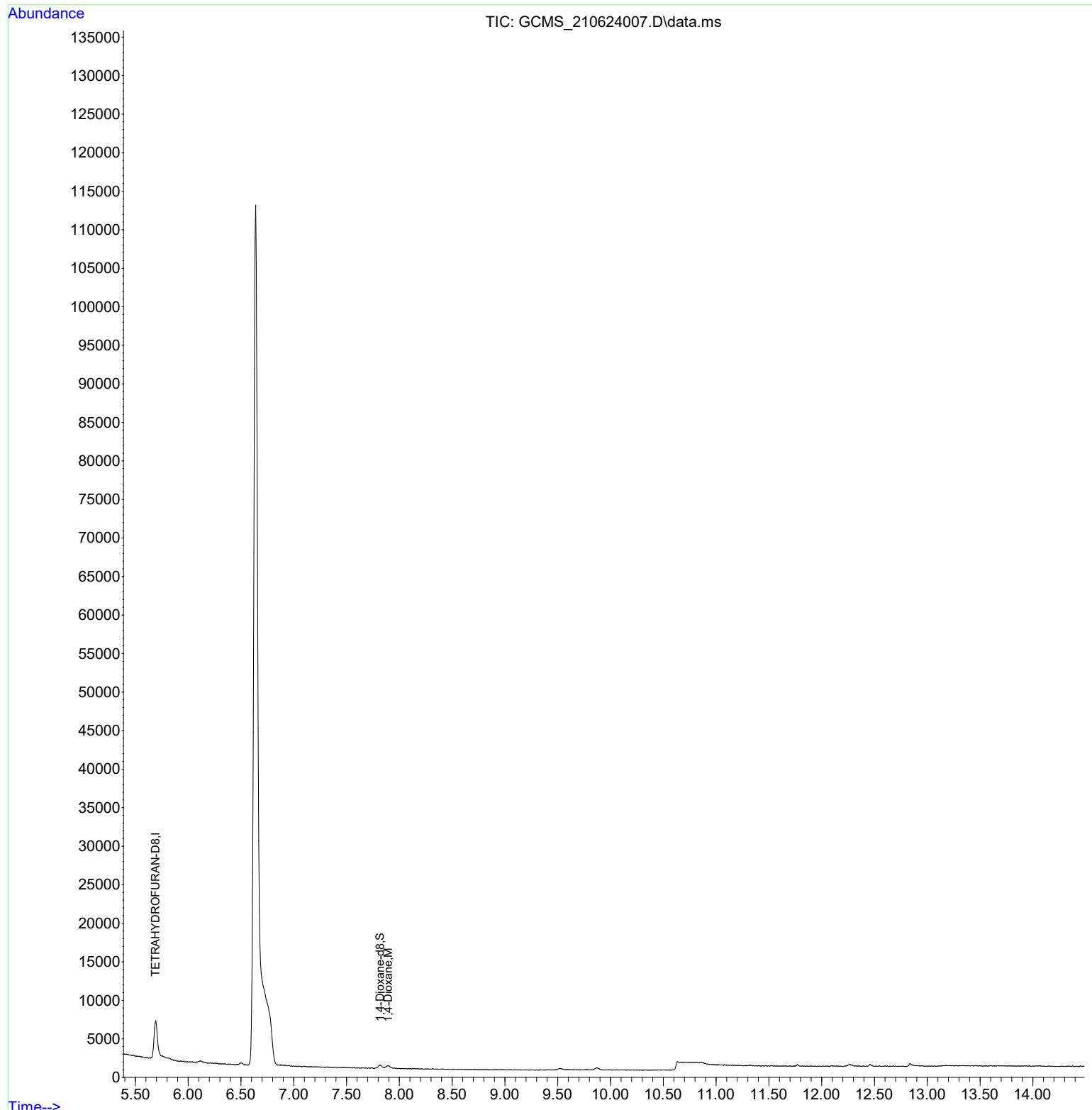
MAK 08/10/2021

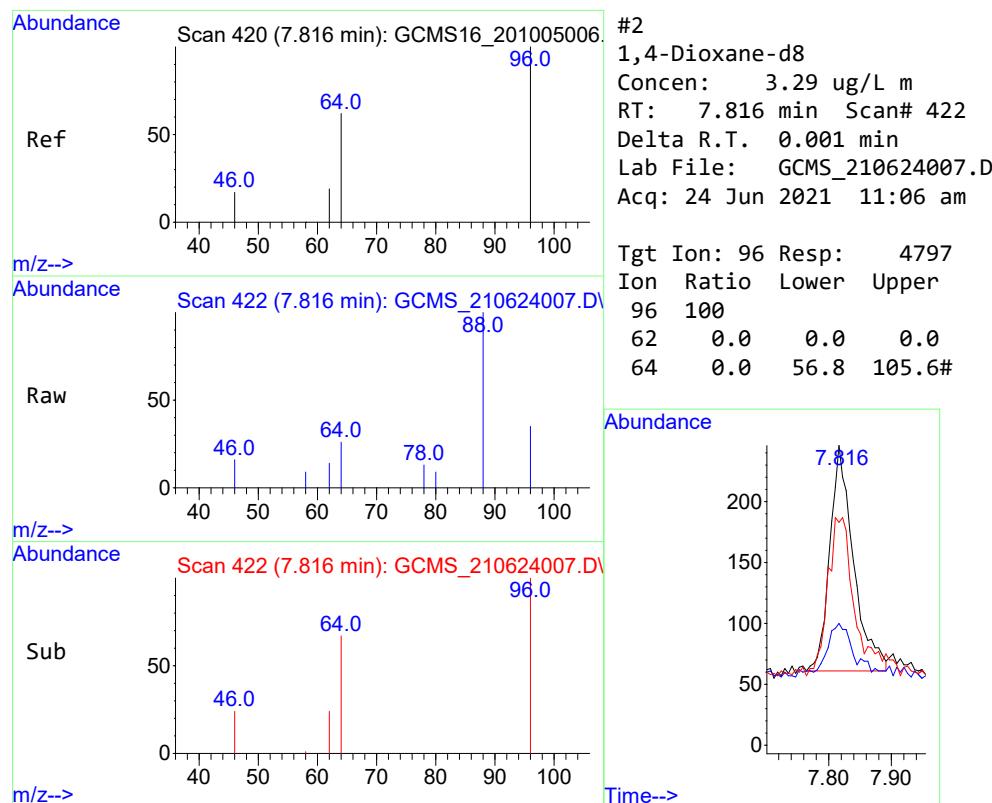
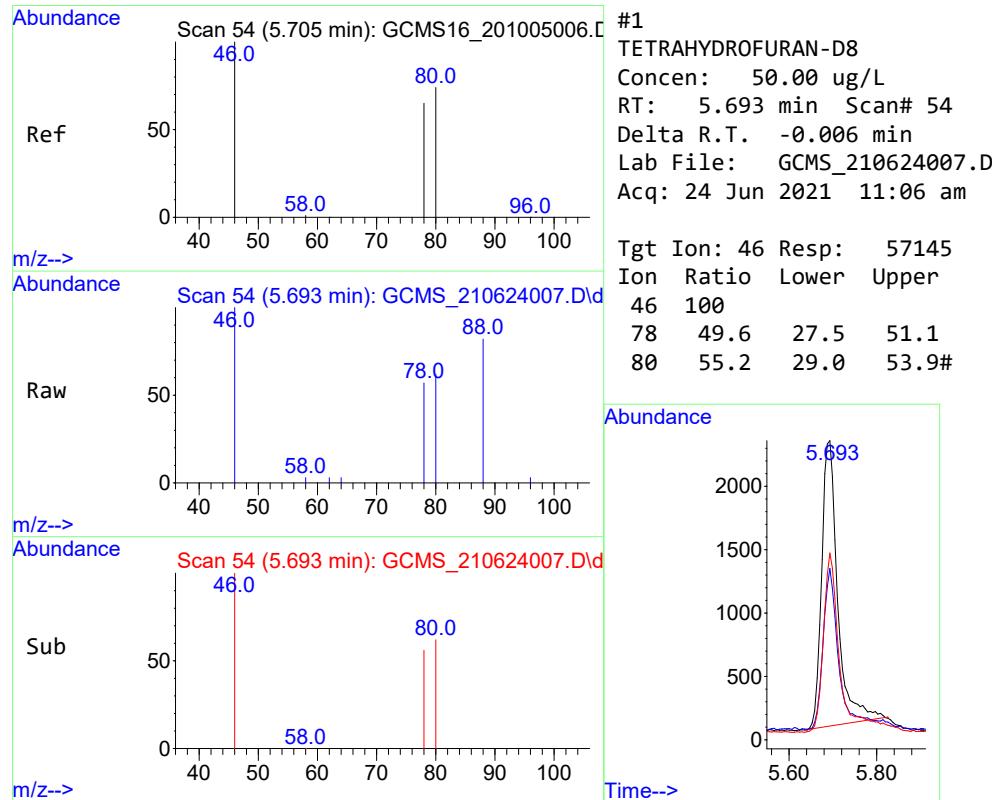
(#= qualifier out of range (m)= manual integration (+)= signals summed

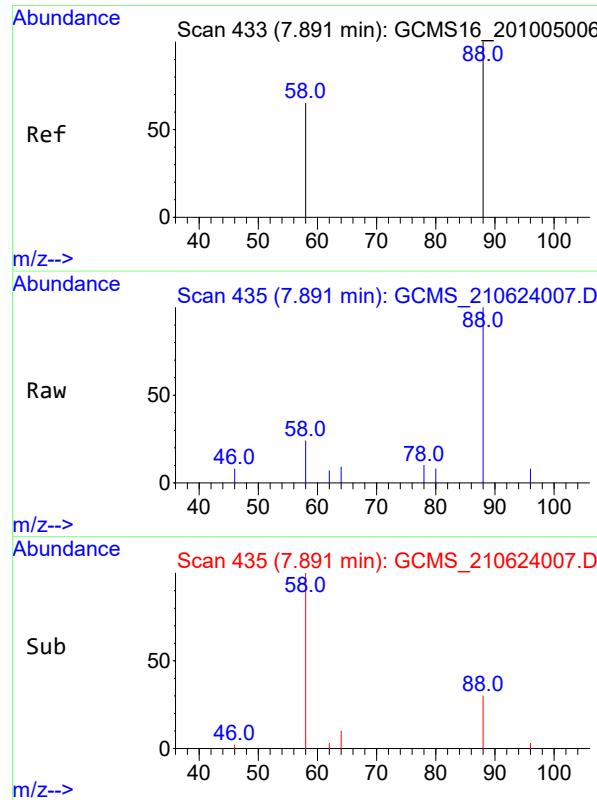
**REVIEWED**  
By Bruce Gallant at 8:04 am, Aug 17, 2021

Data Path : D:\MassHunter\GCMS\1\data\210624\_mak\  
Data File : GCMS\_210624007.D  
Acq On : 24 Jun 2021 11:06 am  
Operator :  
Sample : ICAL L1 5 ppb  
Misc :  
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 24 13:14:48 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Wed Jun 23 14:23:51 2021  
Response via : Initial Calibration

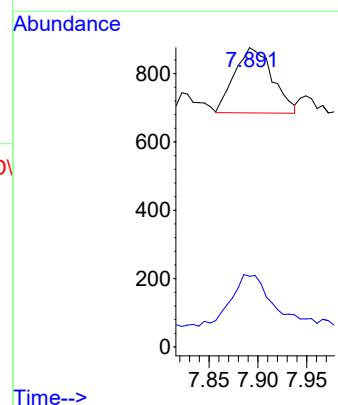






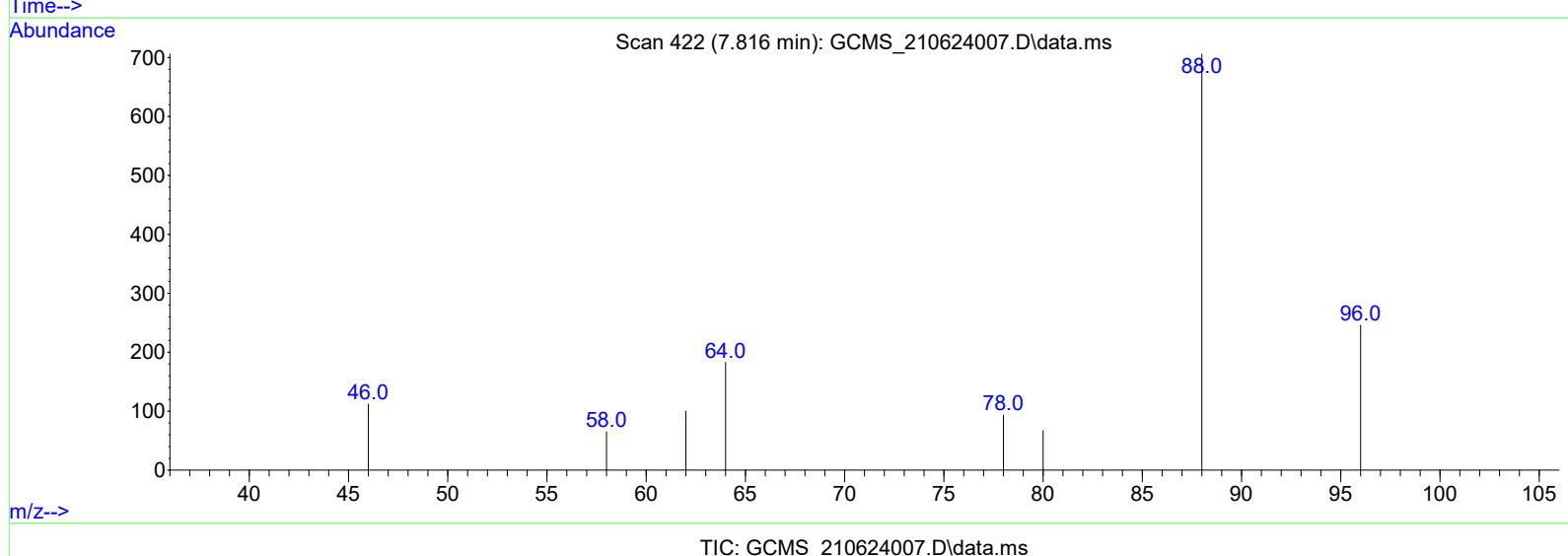
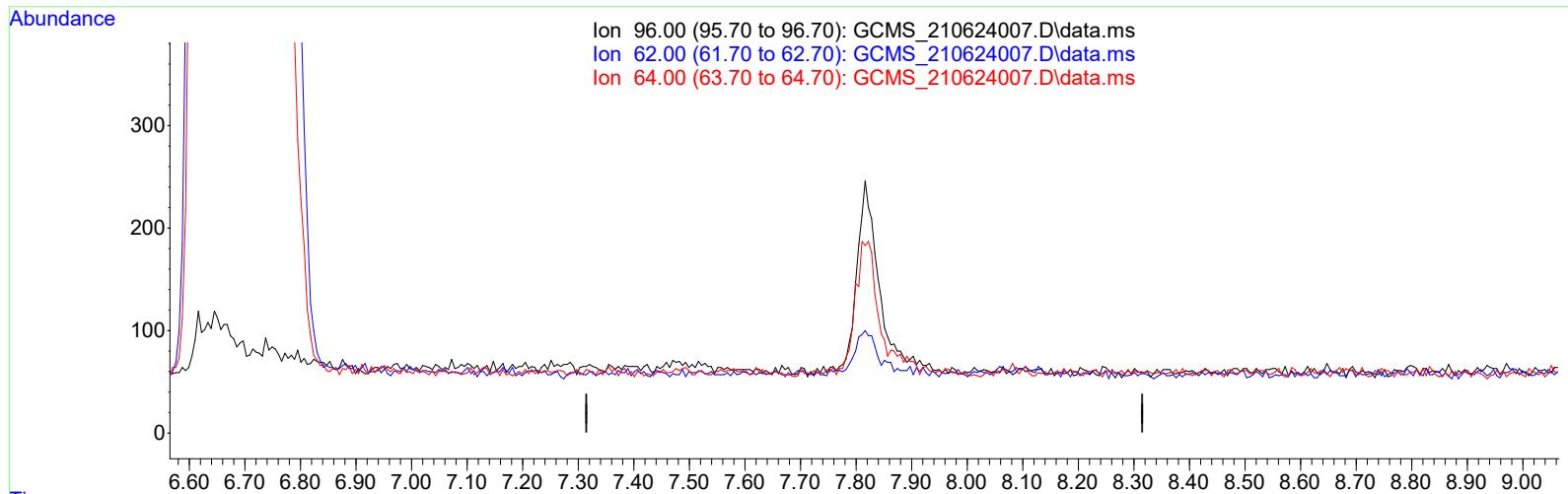
#3  
1,4-Dioxane  
Concen: 3.75 ug/L m  
RT: 7.891 min Scan# 435  
Delta R.T. -0.002 min  
Lab File: GCMS\_210624007.D  
Acq: 24 Jun 2021 11:06 am

Tgt Ion: 88 Resp: 5240  
Ion Ratio Lower Upper  
88 100  
58 0.0 72.5 134.7#



Data Path : D:\MassHunter\GCMS\1\data\210624\_mak\  
 Data File : GCMS\_210624007.D  
 Acq On : 24 Jun 2021 11:06 am  
 Operator :  
 Sample : ICAL L1 5 ppb  
 Misc :  
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 24 13:14:48 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624.mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Wed Jun 23 14:23:51 2021  
 Response via : Initial Calibration



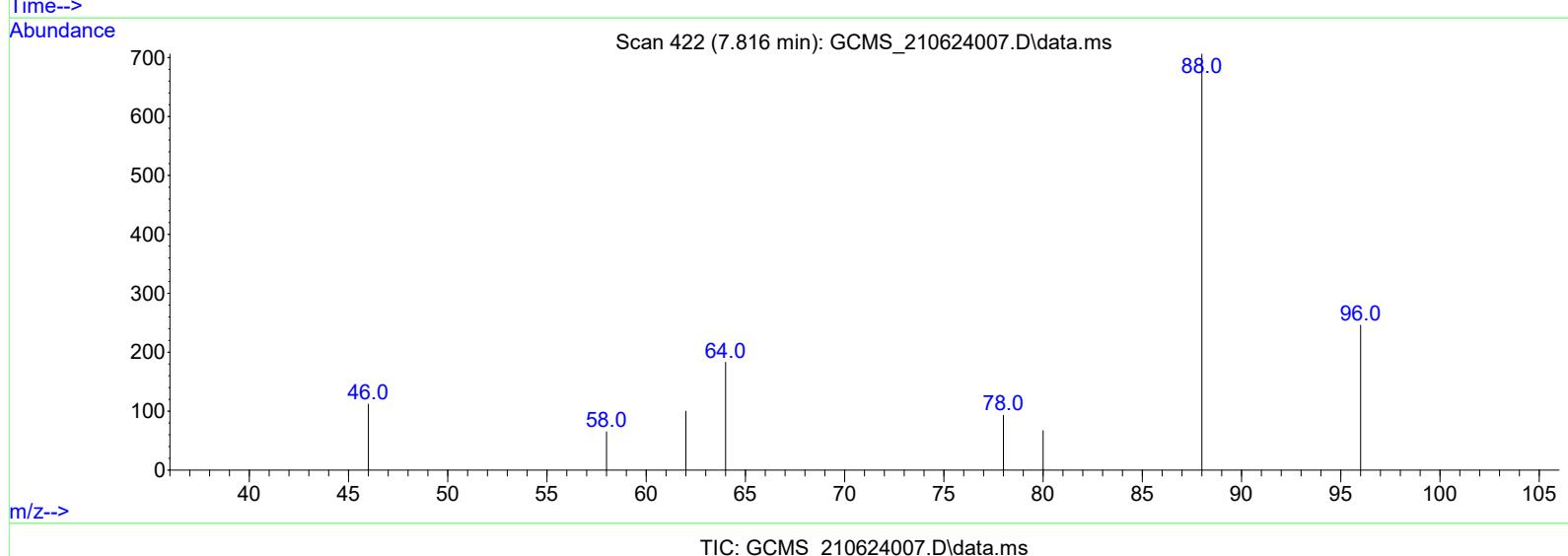
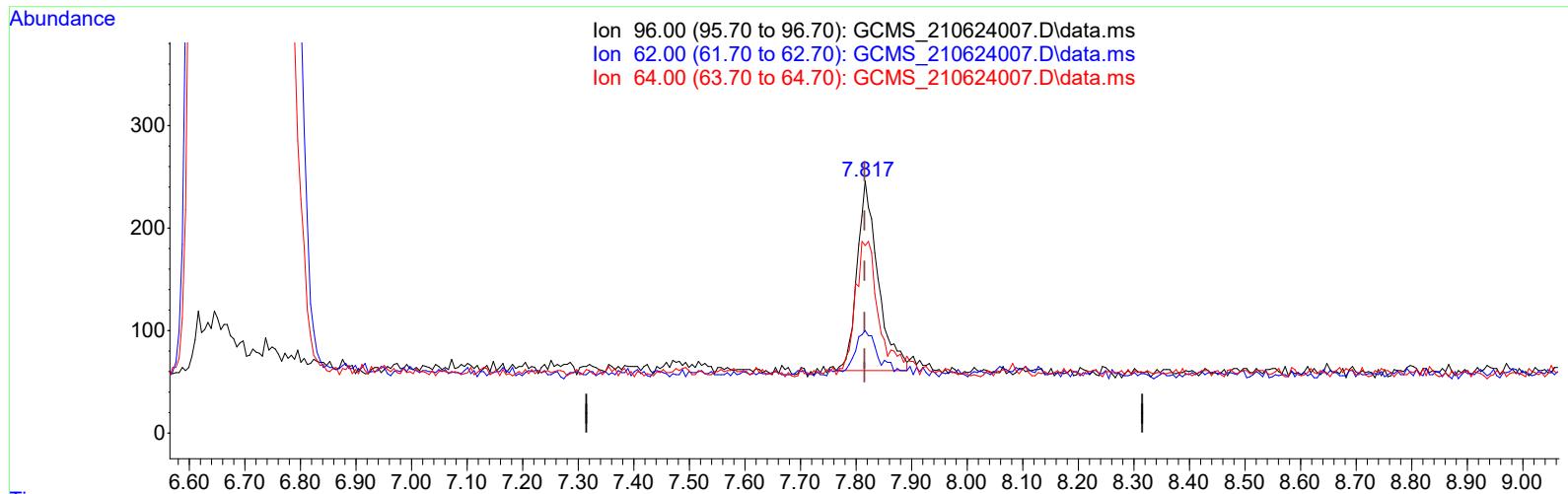
(2) 1,4-Dioxane-d8 (S)

7.815min (-7.815) 0.00 ug/L

response	0	Before N,S MAK 08/10/2021
Ion	Exp%	Act%
96.00	100.00	0.00
62.00	0.00	0.00
64.00	81.20	0.00#
0.00	0.00	0.00

Data Path : D:\MassHunter\GCMS\1\data\210624.mak\  
 Data File : GCMS\_210624007.D  
 Acq On : 24 Jun 2021 11:06 am  
 Operator :  
 Sample : ICAL L1 5 ppb  
 Misc :  
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 24 13:14:48 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624.mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Wed Jun 23 14:23:51 2021  
 Response via : Initial Calibration



(2) 1,4-Dioxane-d8 (S)

7.816min (+ 0.001) 3.29 ug/L m

response 4797

After MAK 08/10/2021

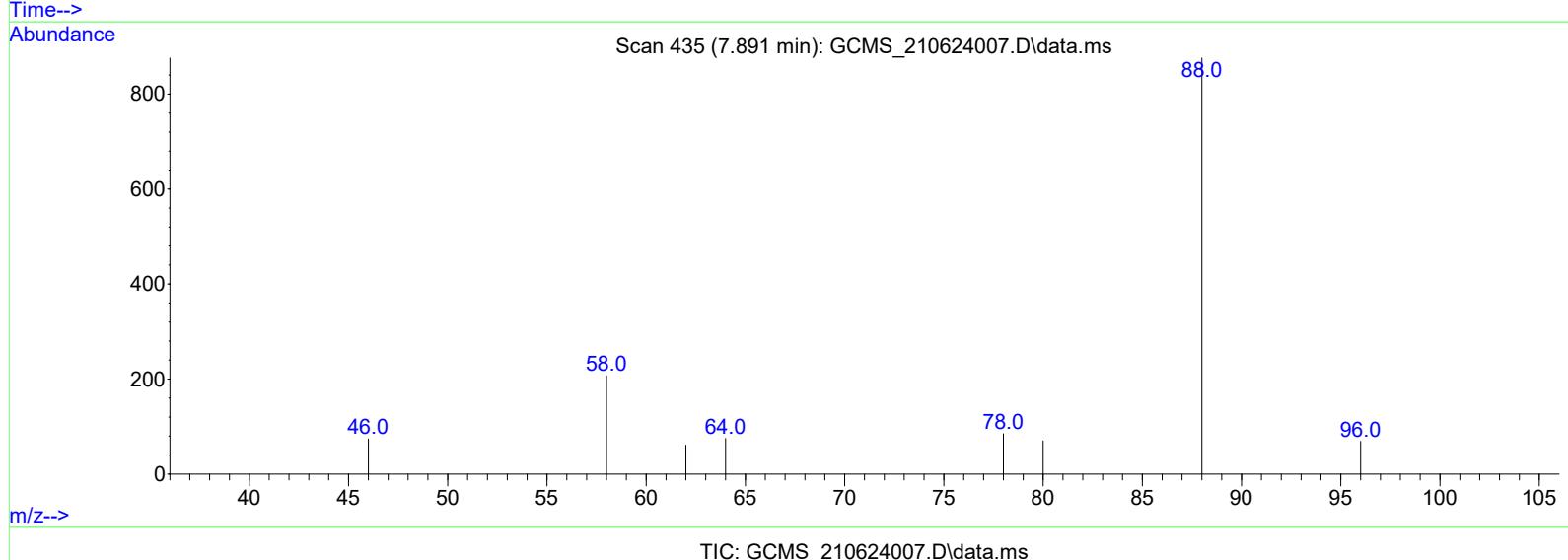
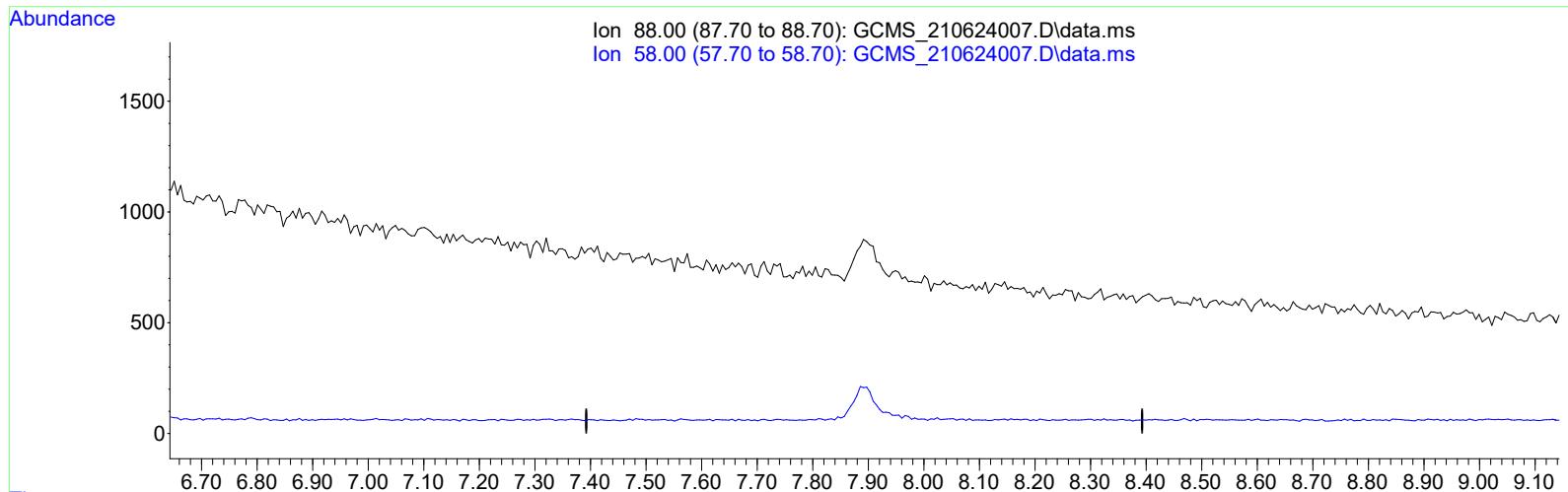
Ion	Exp%	Act%
96.00	100.00	100.00
62.00	0.00	0.00
64.00	81.20	0.00#
0.00	0.00	0.00

REVIEWED

By Bruce Gallant at 8:34 am, Aug 17, 2021

Data Path : D:\MassHunter\GCMS\1\data\210624.mak\  
 Data File : GCMS\_210624007.D  
 Acq On : 24 Jun 2021 11:06 am  
 Operator :  
 Sample : ICAL L1 5 ppb  
 Misc :  
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 24 13:14:48 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624.mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Wed Jun 23 14:23:51 2021  
 Response via : Initial Calibration



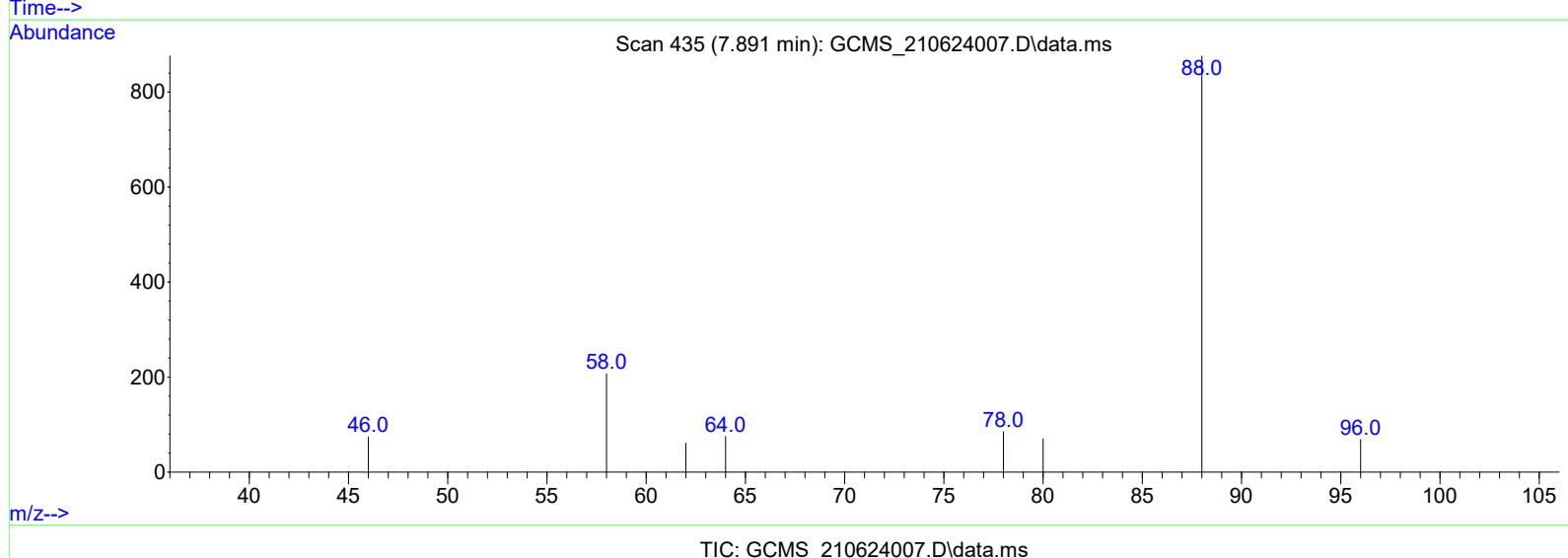
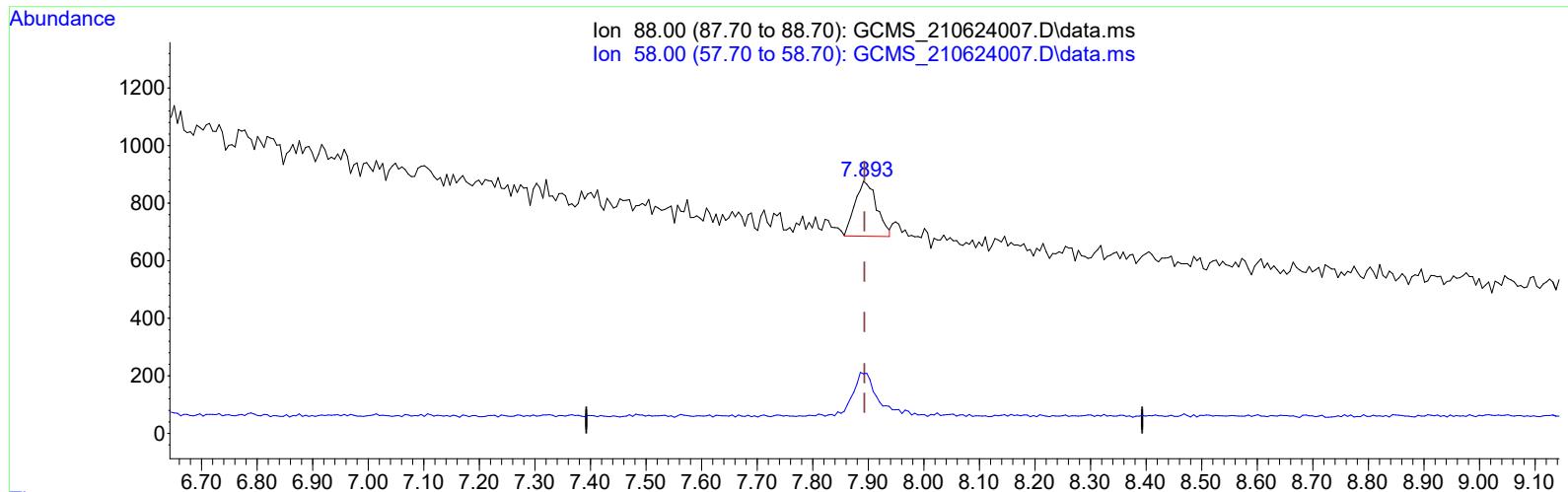
## (3) 1,4-Dioxane (M)

7.893min (-7.893) 0.00 ug/L

response	0	Before N,B MAK 08/10/2021
Ion	Exp%	Act%
88.00	100.00	0.00
58.00	103.60	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : D:\MassHunter\GCMS\1\data\210624.mak\  
 Data File : GCMS\_210624007.D  
 Acq On : 24 Jun 2021 11:06 am  
 Operator :  
 Sample : ICAL L1 5 ppb  
 Misc :  
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 24 13:14:48 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624.mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Wed Jun 23 14:23:51 2021  
 Response via : Initial Calibration



(3) 1,4-Dioxane (M)

7.891min (-0.002) 3.75 ug/L m

response 5240

After MAK 08/10/2021

Ion	Exp%	Act%
88.00	100.00	100.00
58.00	103.60	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

REVIEWED

By Bruce Gallant at 8:34 am, Aug 17, 2021

Data Path : D:\MassHunter\GCMS\1\data\210624\_mak\  
Data File : GCMS\_210624008.D  
Acq On : 24 Jun 2021 11:27 am  
Operator :  
Sample : ICAL L2 10 ppb  
Misc :  
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jun 24 13:14:53 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Wed Jun 23 14:23:51 2021  
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	5.699	46	65909	50.00	ug/L	# 0.00
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	7.816	96	11184m	6.65	ug/L	0.00
<hr/>						
Target Compounds				Qvalue		
3) 1,4-Dioxane	7.897	88	9693m	6.01	ug/L	
<hr/>						

MAK 08/10/2021

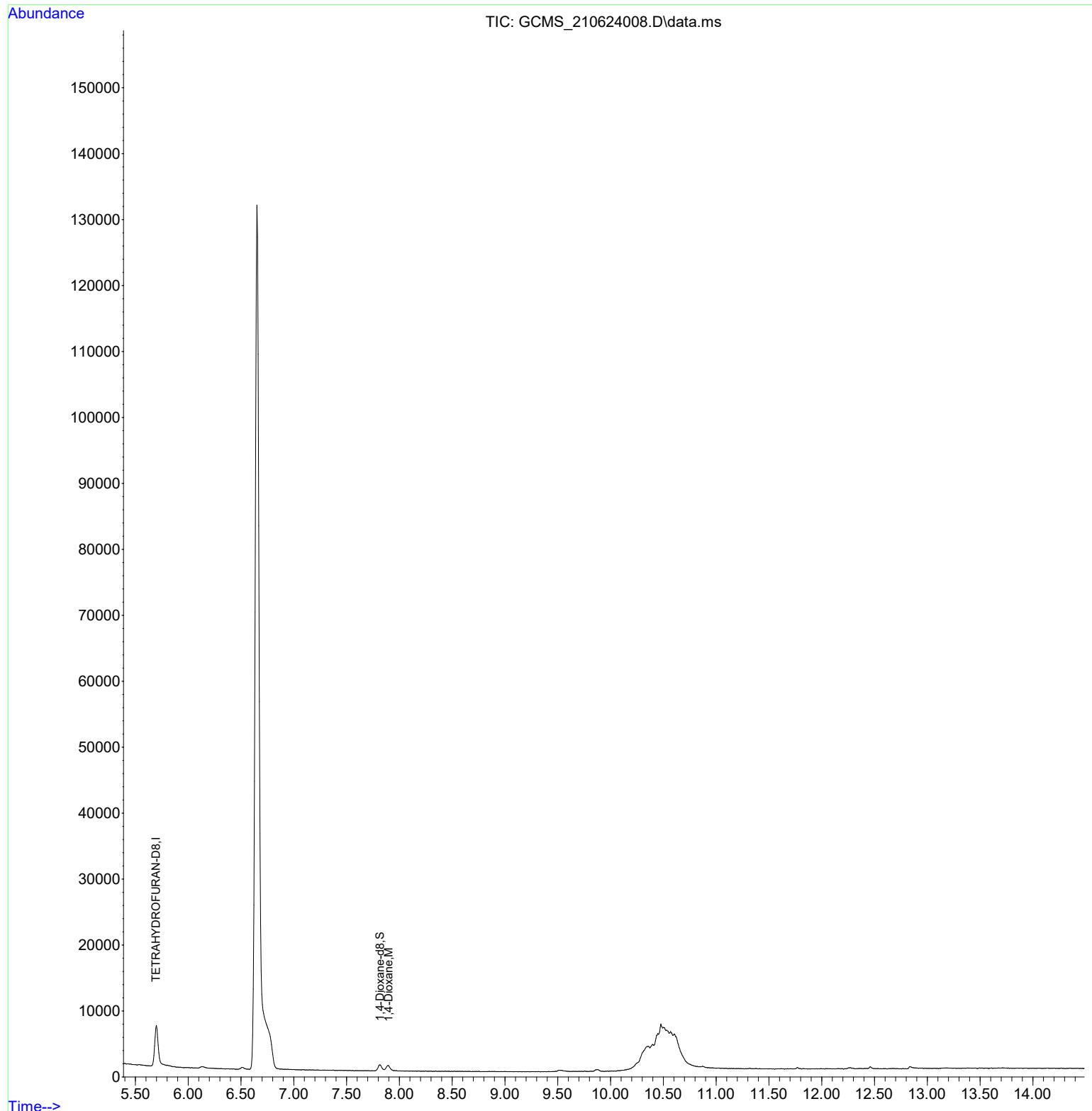
(#) = qualifier out of range (m) = manual integration (+) = signals summed

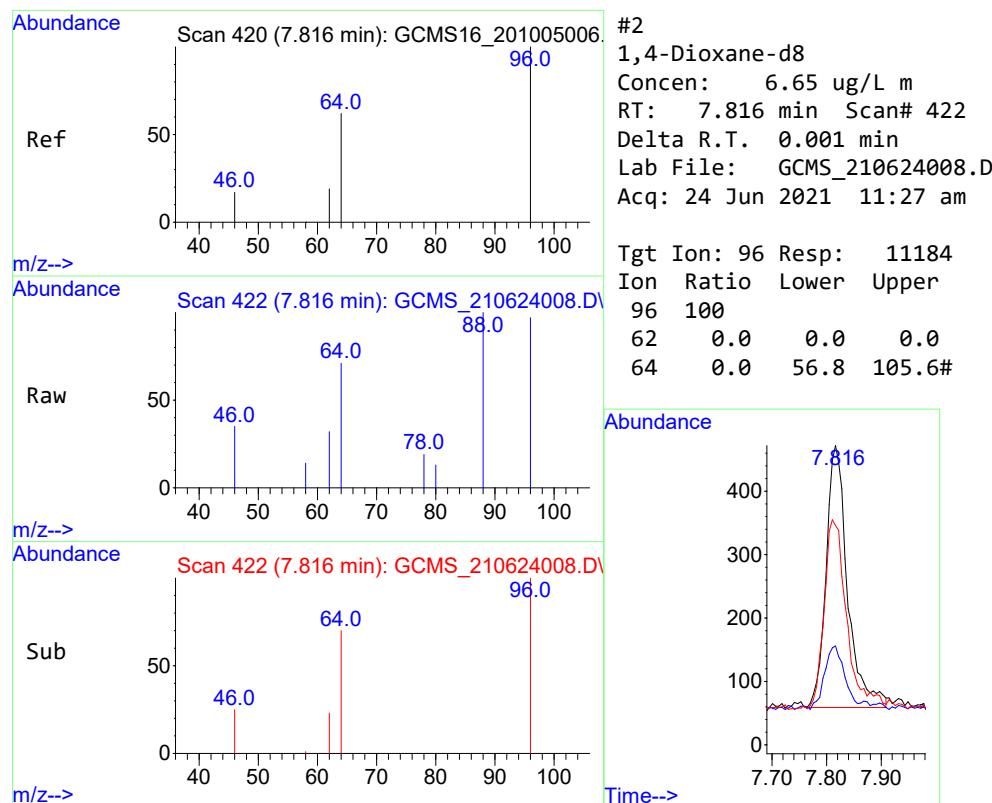
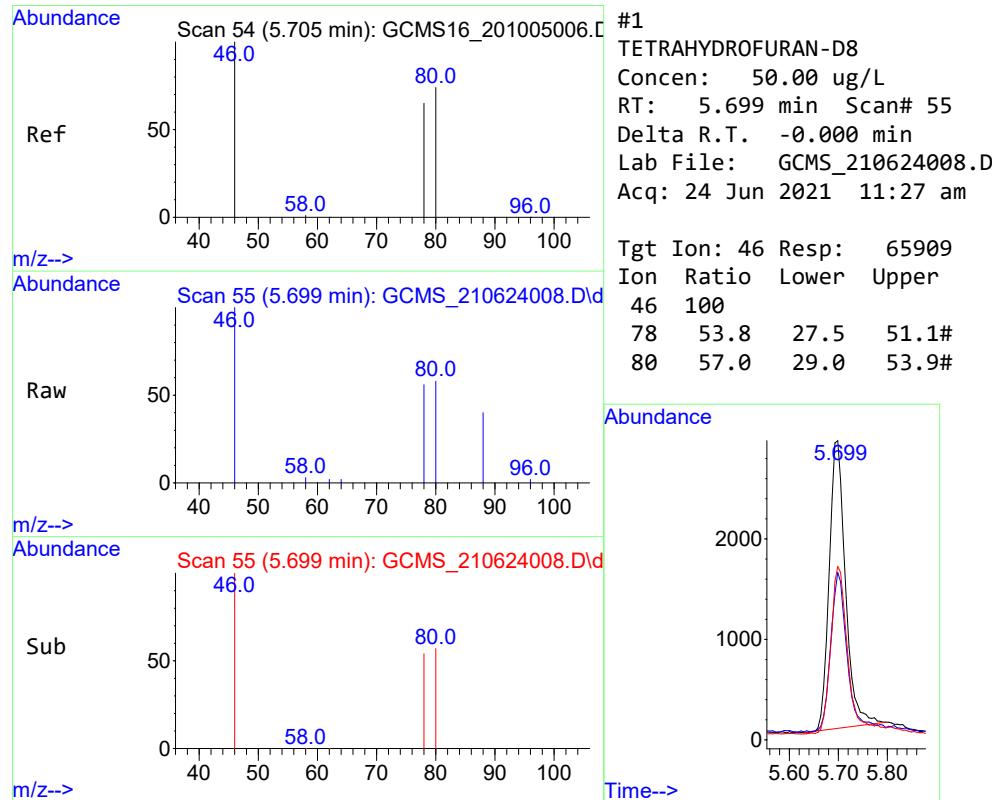
REVIEWED

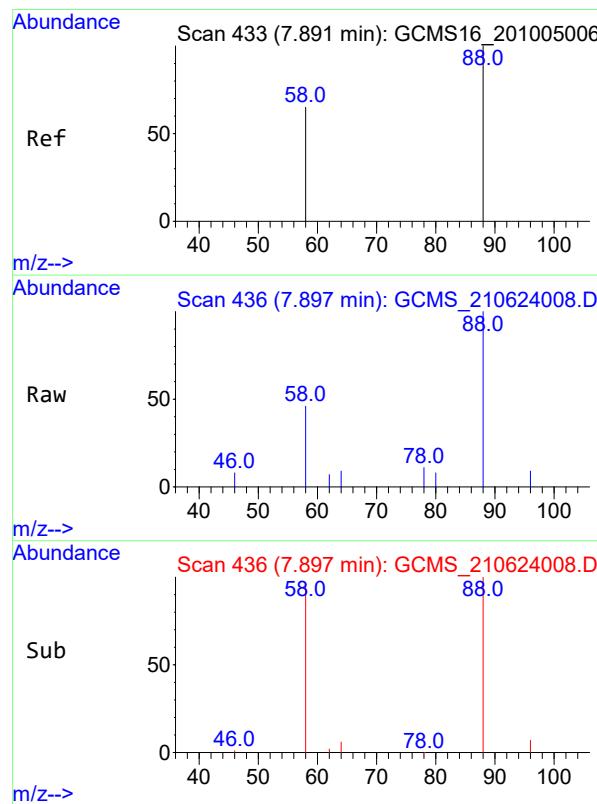
By Bruce Gallant at 8:05 am, Aug 17, 2021

Data Path : D:\MassHunter\GCMS\1\data\210624\_mak\  
Data File : GCMS\_210624008.D  
Acq On : 24 Jun 2021 11:27 am  
Operator :  
Sample : ICAL L2 10 ppb  
Misc :  
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jun 24 13:14:53 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Wed Jun 23 14:23:51 2021  
Response via : Initial Calibration

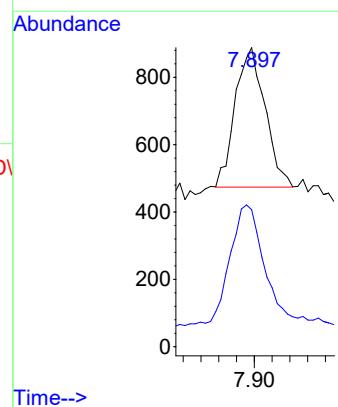






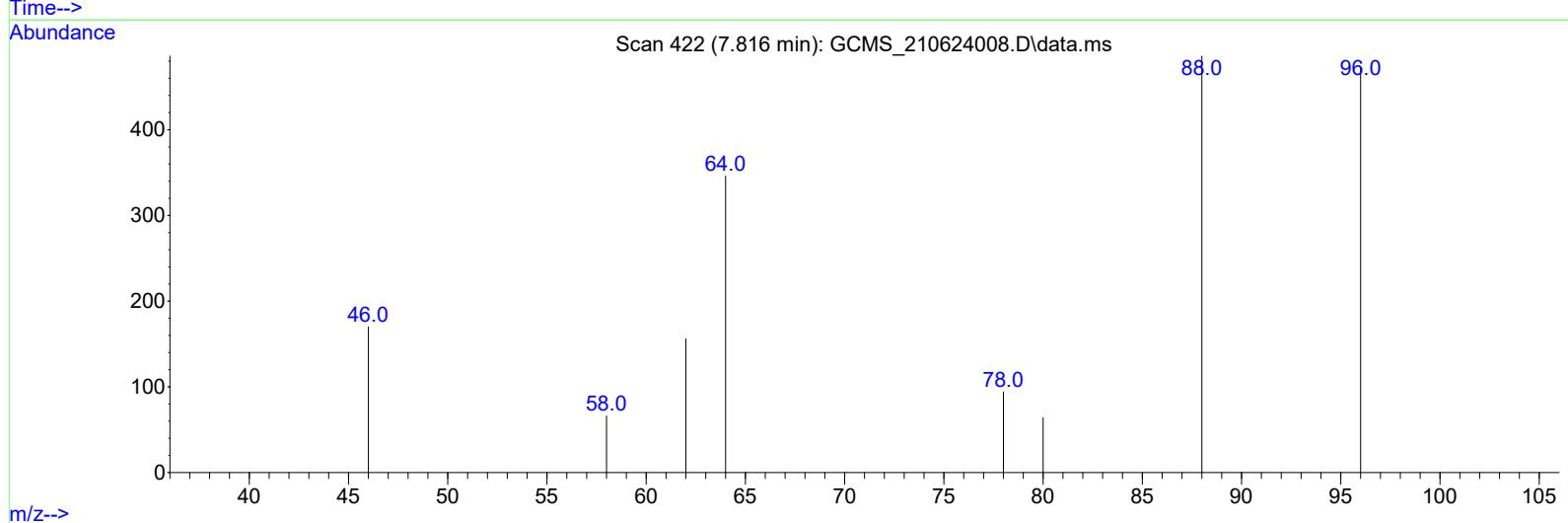
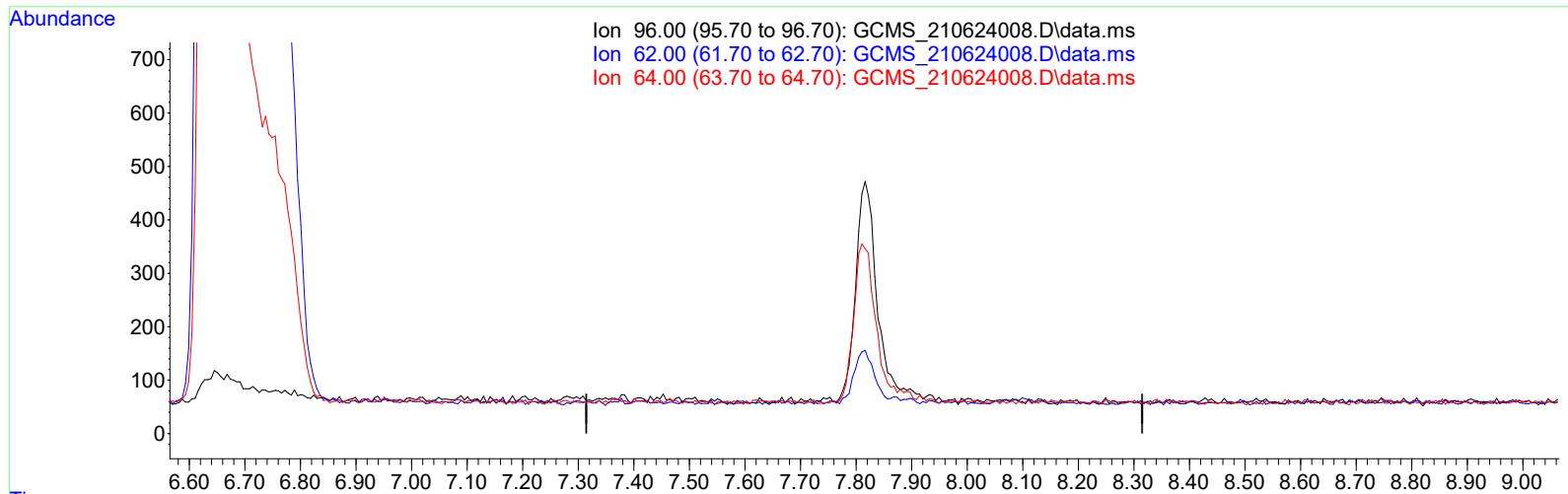
#3  
 1,4-Dioxane  
 Concen: 6.01 ug/L m  
 RT: 7.897 min Scan# 436  
 Delta R.T. 0.004 min  
 Lab File: GCMS\_210624008.D  
 Acq: 24 Jun 2021 11:27 am

Tgt Ion: 88 Resp: 9693  
 Ion Ratio Lower Upper  
 88 100  
 58 0.0 72.5 134.7#



Data Path : D:\MassHunter\GCMS\1\data\210624.mak\  
 Data File : GCMS\_210624008.D  
 Acq On : 24 Jun 2021 11:27 am  
 Operator :  
 Sample : ICAL L2 10 ppb  
 Misc :  
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jun 24 13:14:53 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624.mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Wed Jun 23 14:23:51 2021  
 Response via : Initial Calibration



TIC: GCMS\_210624008.D\data.ms

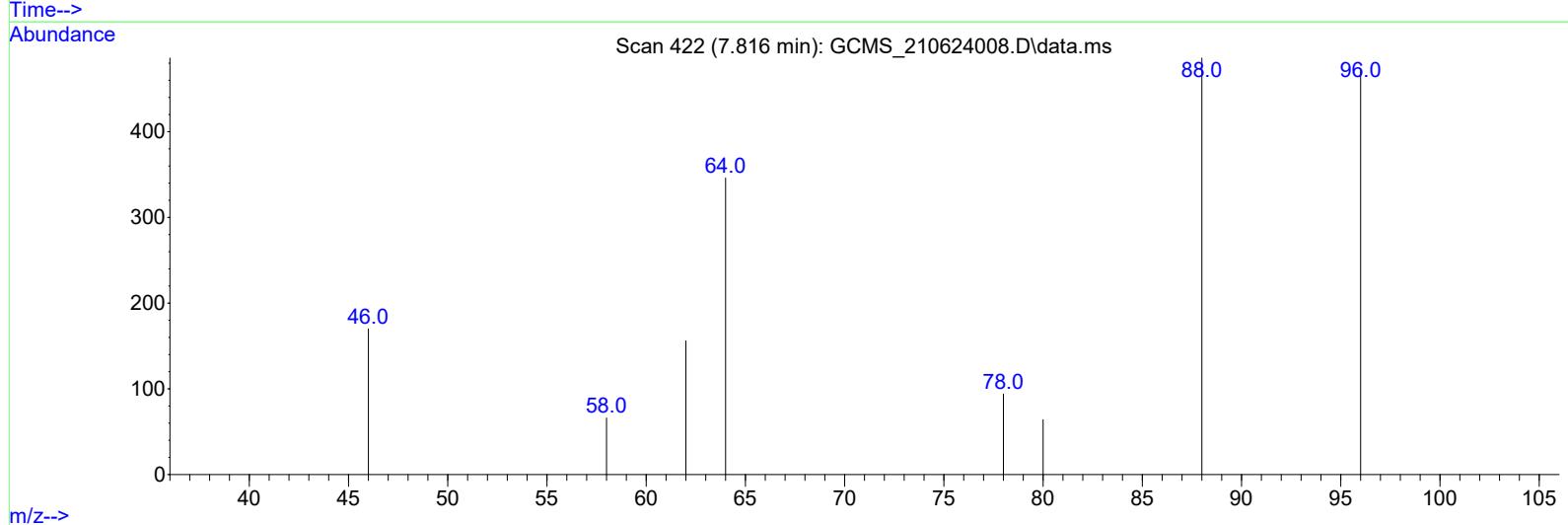
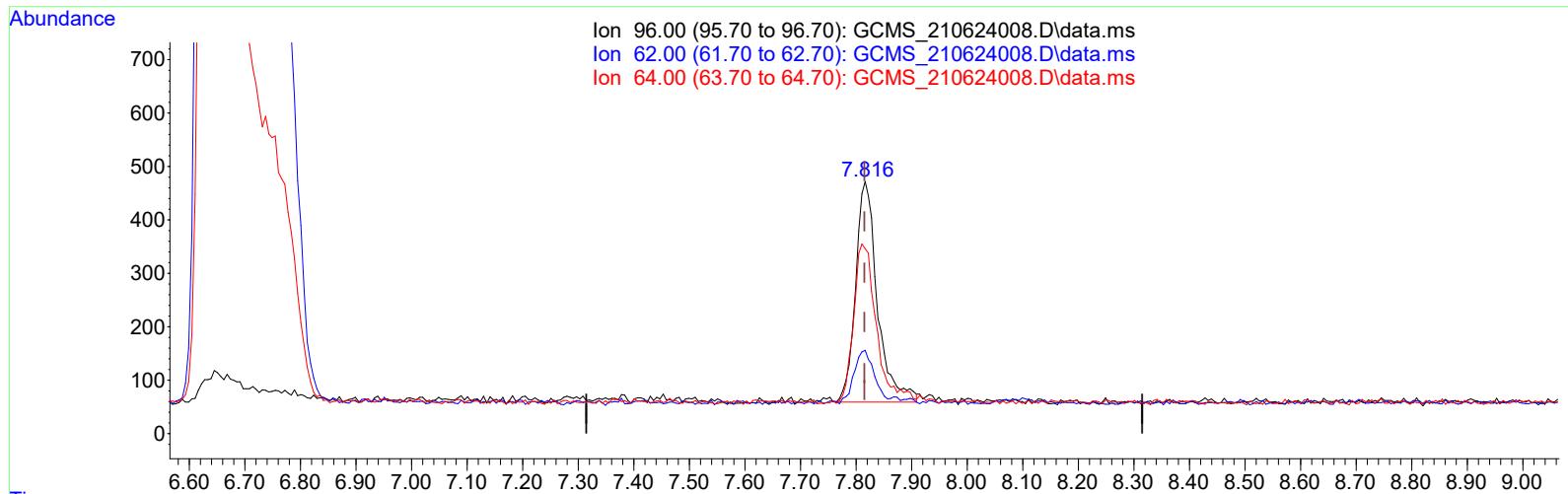
(2) 1,4-Dioxane-d8 (S)

7.815min (-7.815) 0.00 ug/L

response	0	Before N,S MAK 08/10/2021
Ion	Exp%	Act%
96.00	100.00	0.00
62.00	0.00	0.00
64.00	81.20	0.00#
0.00	0.00	0.00

Data Path : D:\MassHunter\GCMS\1\data\210624.mak\  
 Data File : GCMS\_210624008.D  
 Acq On : 24 Jun 2021 11:27 am  
 Operator :  
 Sample : ICAL L2 10 ppb  
 Misc :  
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jun 24 13:14:53 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624.mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Wed Jun 23 14:23:51 2021  
 Response via : Initial Calibration



TIC: GCMS\_210624008.D\data.ms

(2) 1,4-Dioxane-d8 (S)

7.816min (+ 0.001) 6.65 ug/L m

response 11184

Ion	Exp%	Act%	After MAK 08/10/2021
96.00	100.00	100.00	
62.00	0.00	0.00	
64.00	81.20	0.00#	
0.00	0.00	0.00	

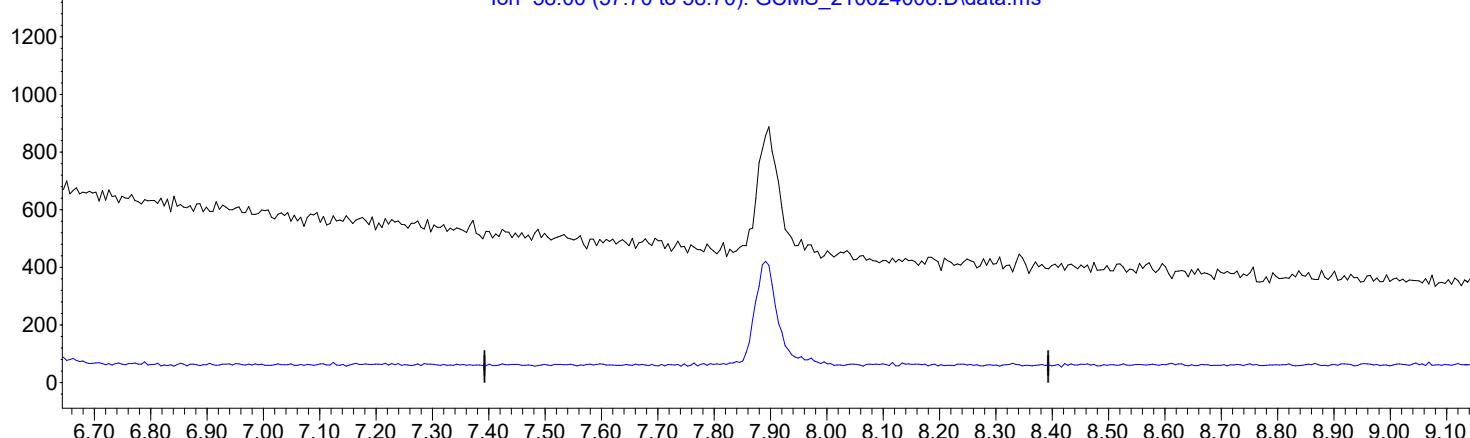
REVIEWED  
By Bruce Gallant at 8:06 am, Aug 17, 2021

Data Path : D:\MassHunter\GCMS\1\data\210624.mak\  
 Data File : GCMS\_210624008.D  
 Acq On : 24 Jun 2021 11:27 am  
 Operator :  
 Sample : ICAL L2 10 ppb  
 Misc :  
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jun 24 13:14:53 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624.mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Wed Jun 23 14:23:51 2021  
 Response via : Initial Calibration

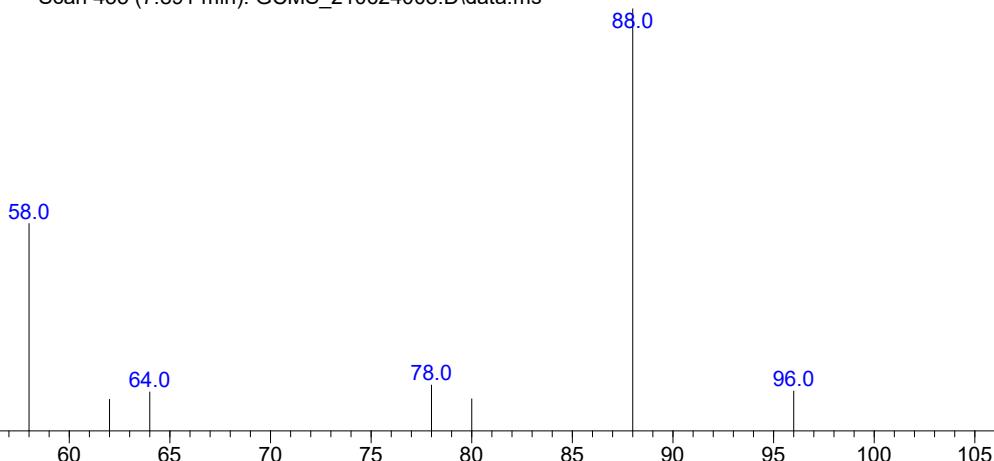
Abundance

Ion 88.00 (87.70 to 88.70): GCMS\_210624008.D\data.ms  
 Ion 58.00 (57.70 to 58.70): GCMS\_210624008.D\data.ms



Time--> Abundance

Scan 435 (7.891 min): GCMS\_210624008.D\data.ms



TIC: GCMS\_210624008.D\data.ms

(3) 1,4-Dioxane (M)

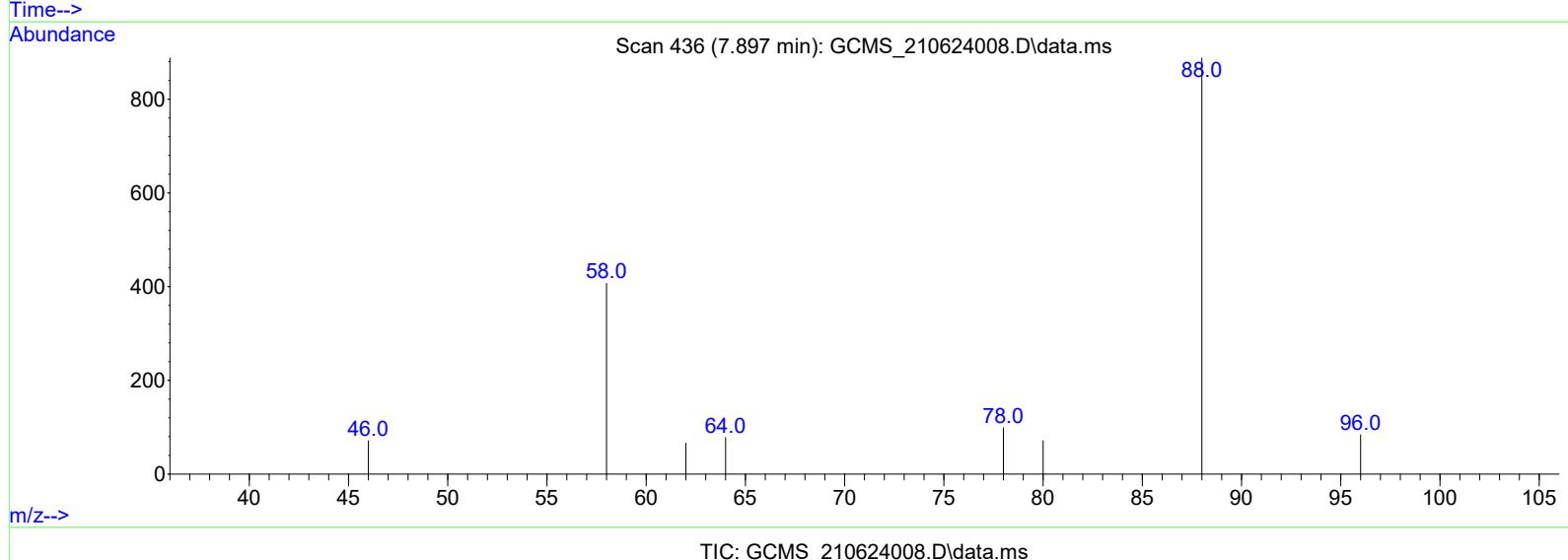
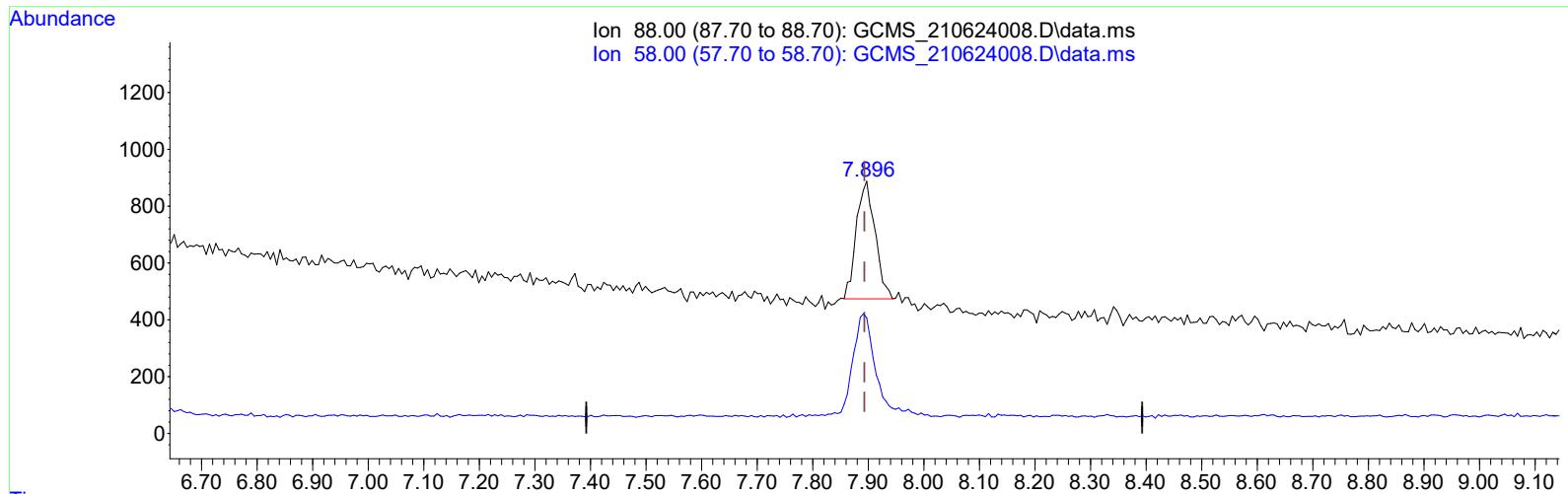
7.893min (-7.893) 0.00 ug/L

response 0 Before N,B  
MAK 08/10/2021

Ion	Exp%	Act%
88.00	100.00	0.00
58.00	103.60	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : D:\MassHunter\GCMS\1\data\210624.mak\  
 Data File : GCMS\_210624008.D  
 Acq On : 24 Jun 2021 11:27 am  
 Operator :  
 Sample : ICAL L2 10 ppb  
 Misc :  
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jun 24 13:14:53 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624.mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Wed Jun 23 14:23:51 2021  
 Response via : Initial Calibration



## (3) 1,4-Dioxane (M)

7.897min (+ 0.004) 6.01 ug/L m

response 9693

After MAK 08/10/2021

Ion	Exp%	Act%
88.00	100.00	100.00
58.00	103.60	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

REVIEWED  
 By Bruce Gallant at 8:06 am, Aug 17, 2021

Data Path : D:\MassHunter\GCMS\1\data\210624\_mak\  
Data File : GCMS\_210624009.D  
Acq On : 24 Jun 2021 11:48 am  
Operator :  
Sample : ICAL L3 15 ppb  
Misc :  
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jun 24 13:15:01 2021

Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M

Quant Title : Initial Calibration of 1,4-Dioxane 021317

QLast Update : Wed Jun 23 14:23:51 2021

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	5.708	46	77639	50.00	ug/L	# 0.00
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	7.819	96	17223	8.70	ug/L	0.00
<hr/>						
Target Compounds				Qvalue		
3) 1,4-Dioxane	7.896	88	20312	10.69	ug/L	75
<hr/>						

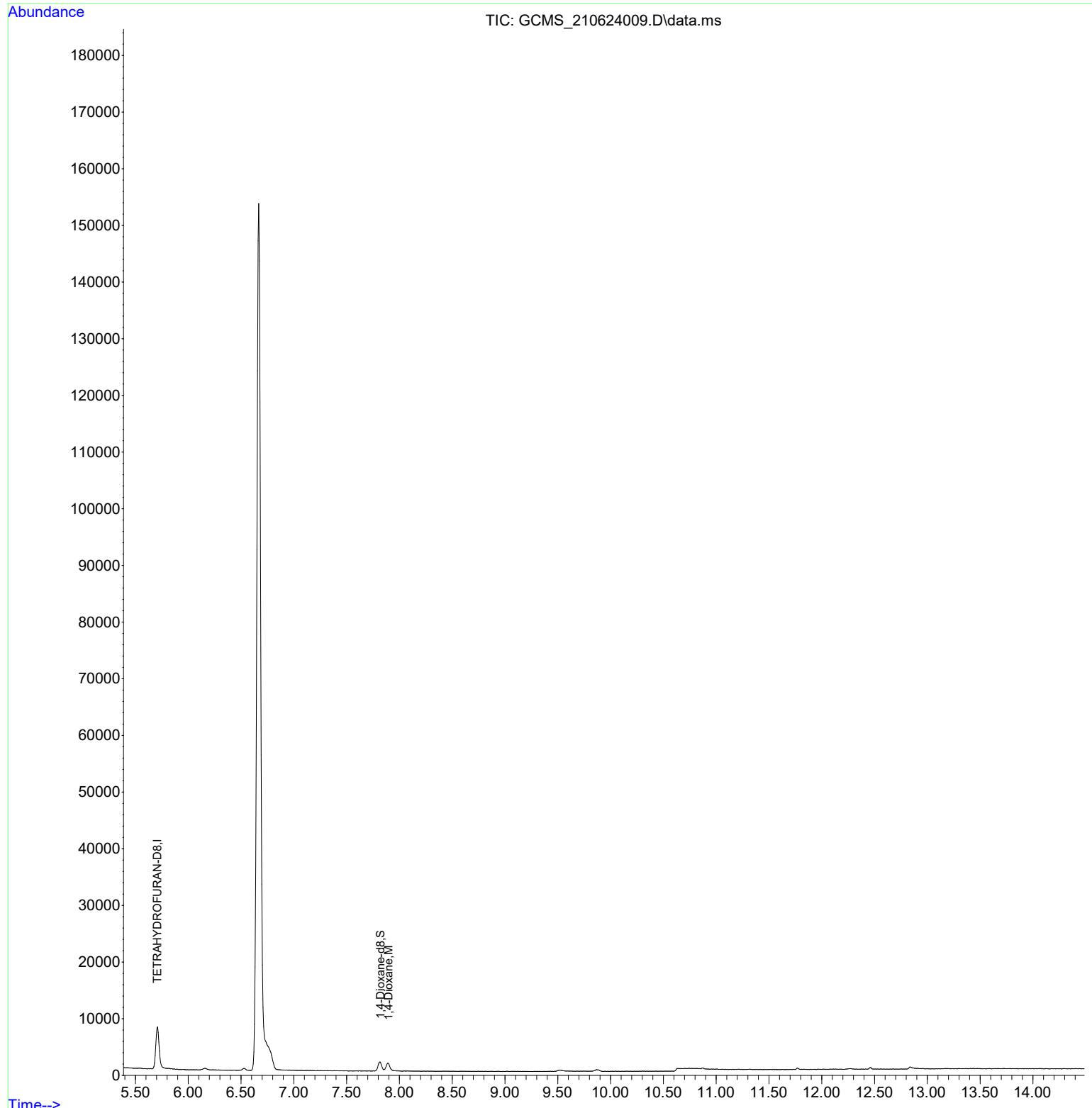
MAK 08/10/2021

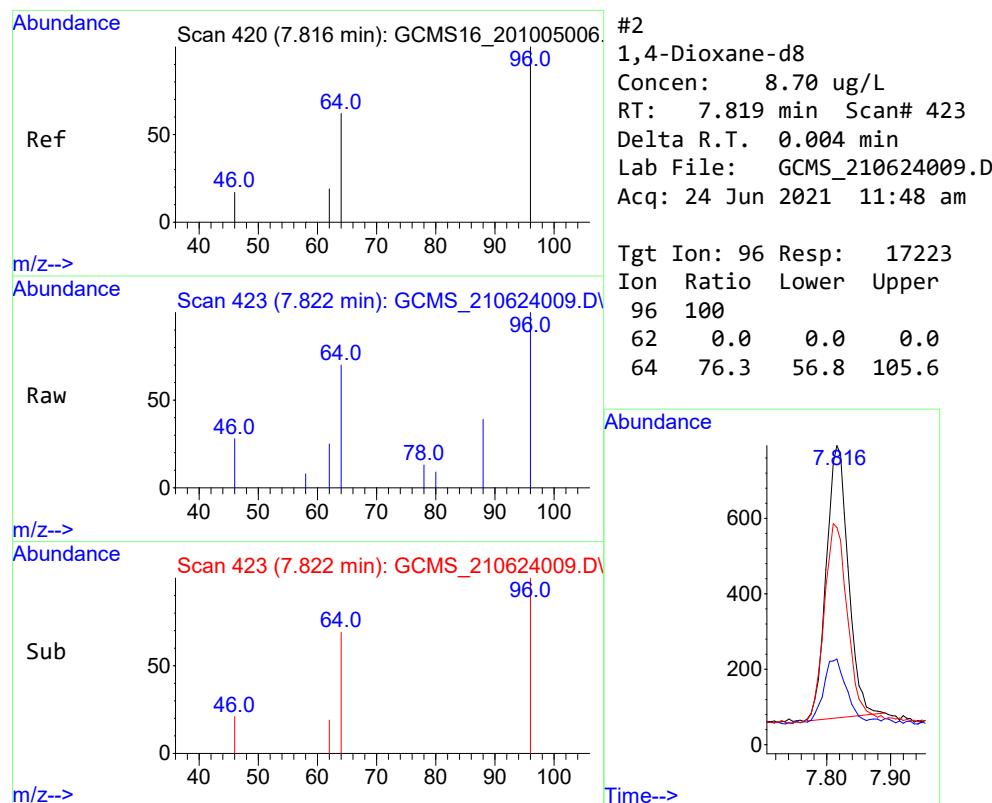
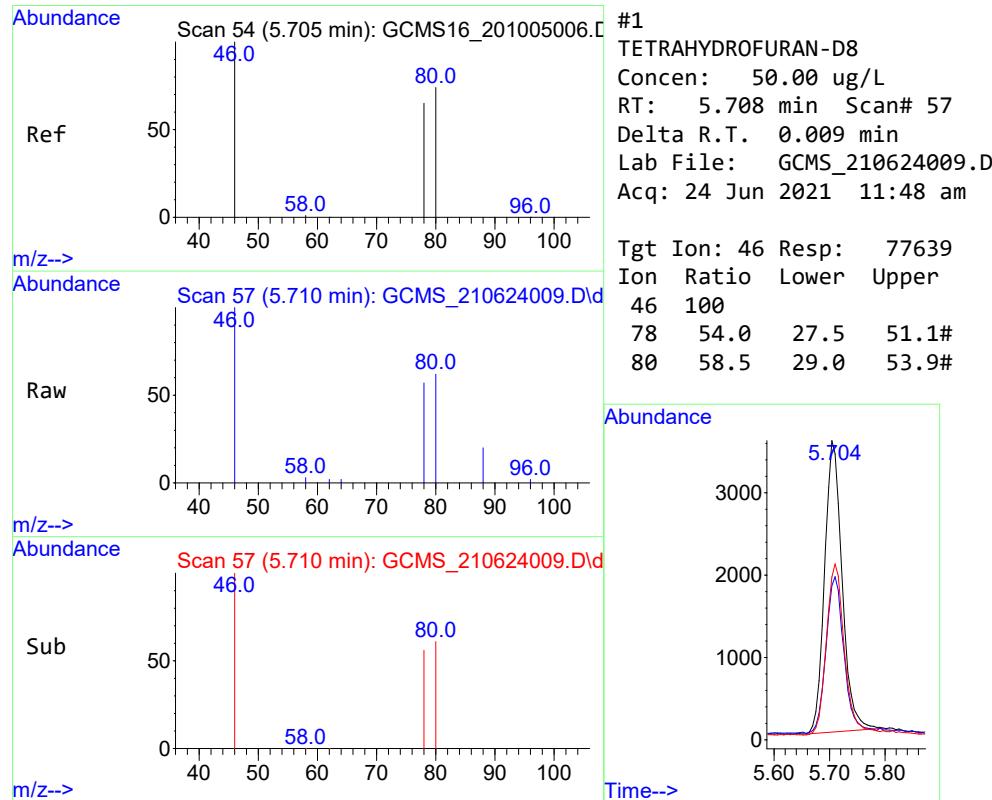
(#) = qualifier out of range (m) = manual integration (+) = signals summed

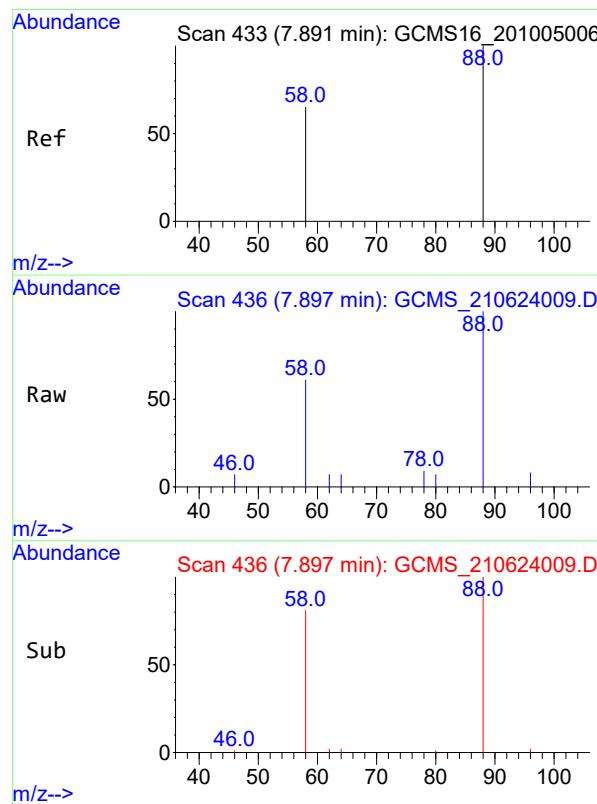


Data Path : D:\MassHunter\GCMS\1\data\210624\_mak\  
Data File : GCMS\_210624009.D  
Acq On : 24 Jun 2021 11:48 am  
Operator :  
Sample : ICAL L3 15 ppb  
Misc :  
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jun 24 13:15:01 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Wed Jun 23 14:23:51 2021  
Response via : Initial Calibration

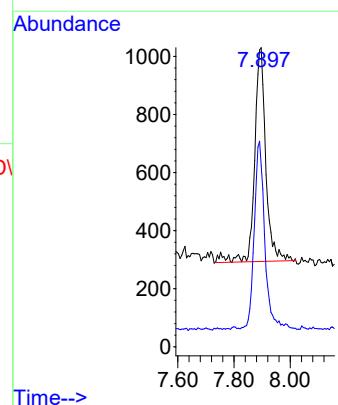






#3  
 1,4-Dioxane  
 Concen: 10.69 ug/L  
 RT: 7.896 min Scan# 436  
 Delta R.T. 0.003 min  
 Lab File: GCMS\_210624009.D  
 Acq: 24 Jun 2021 11:48 am

Tgt Ion: 88 Resp: 20312  
 Ion Ratio Lower Upper  
 88 100  
 58 77.9 72.5 134.7



Data Path : D:\MassHunter\GCMS\1\data\210624\_mak\  
Data File : GCMS\_210624010.D  
Acq On : 24 Jun 2021 12:09 pm  
Operator :  
Sample : ICAL L4 20 ppb  
Misc :  
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jun 24 13:15:08 2021

Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M

Quant Title : Initial Calibration of 1,4-Dioxane 021317

QLast Update : Wed Jun 23 14:23:51 2021

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	5.699	46	64030	50.00	ug/L	# 0.00
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	7.817	96	20901	12.80	ug/L	0.00
<hr/>						
Target Compounds				Qvalue		
3) 1,4-Dioxane	7.894	88	22550	14.39	ug/L	81
<hr/>						

MAK 08/10/2021

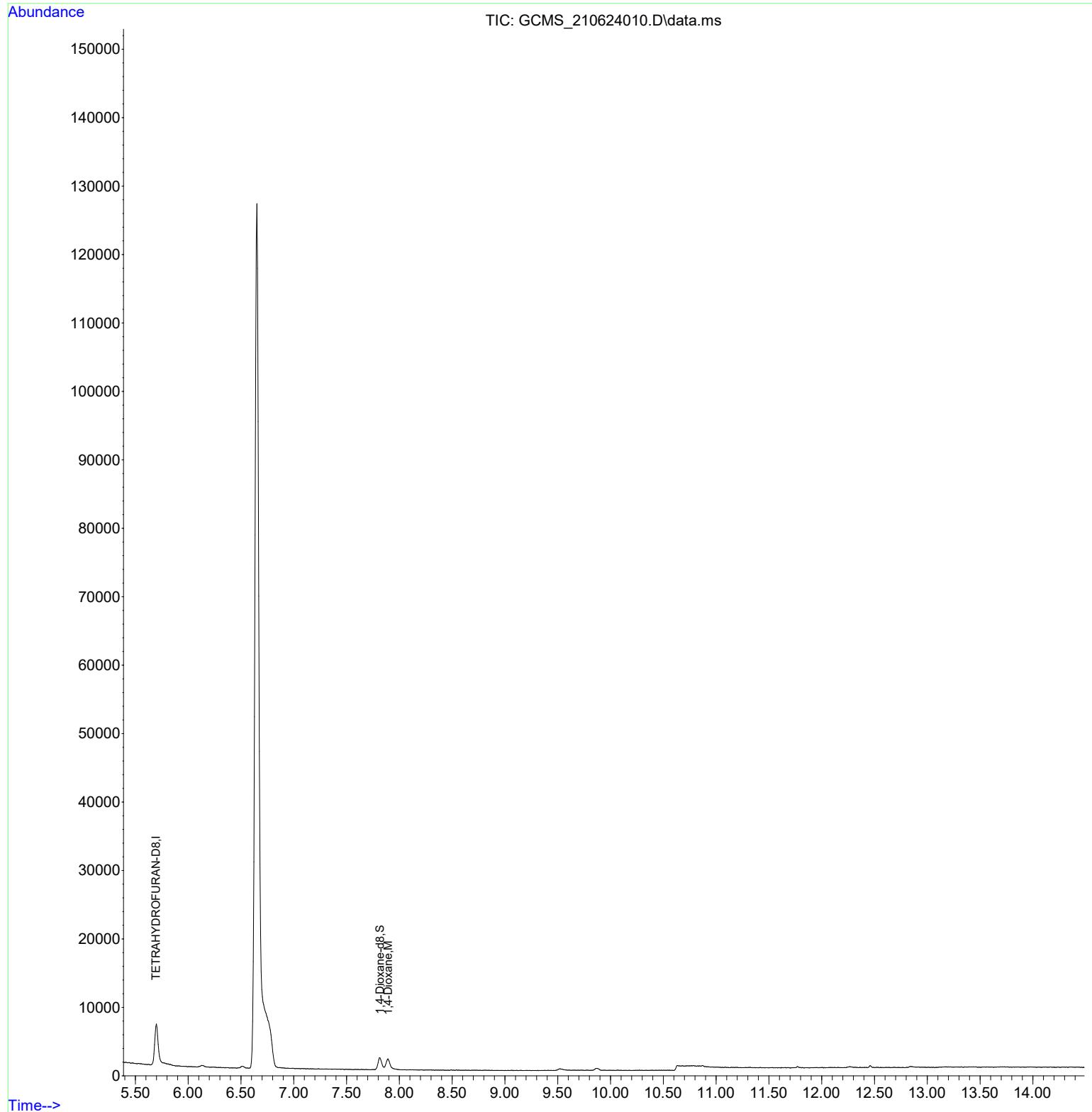
(#) = qualifier out of range (m) = manual integration (+) = signals summed

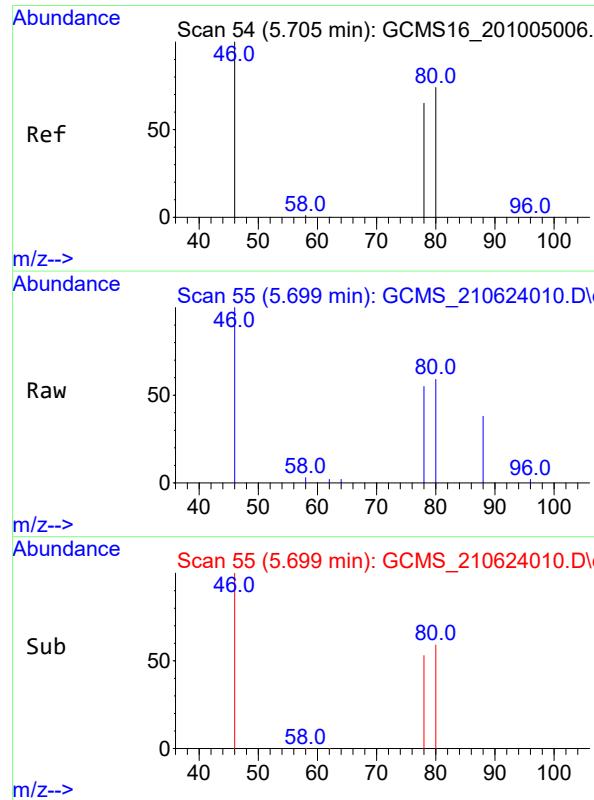
**REVIEWED**

By Bruce Gallant at 8:07 am, Aug 17, 2021

Data Path : D:\MassHunter\GCMS\1\data\210624\_mak\  
Data File : GCMS\_210624010.D  
Acq On : 24 Jun 2021 12:09 pm  
Operator :  
Sample : ICAL L4 20 ppb  
Misc :  
ALS Vial : 8 Sample Multiplier: 1

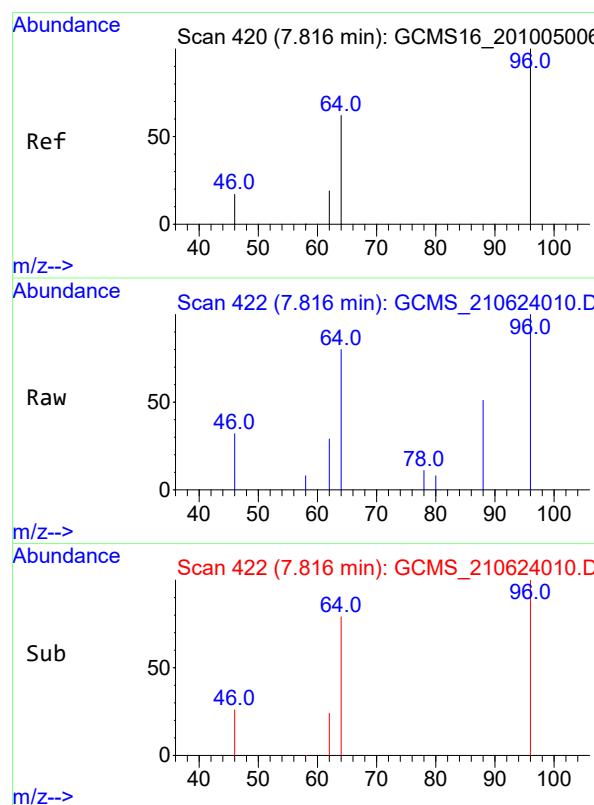
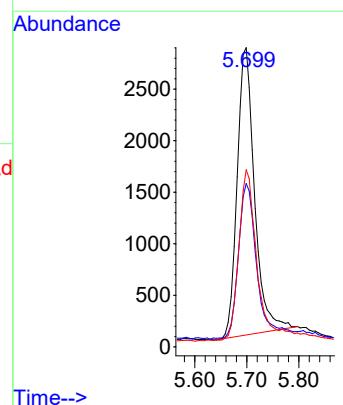
Quant Time: Jun 24 13:15:08 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Wed Jun 23 14:23:51 2021  
Response via : Initial Calibration





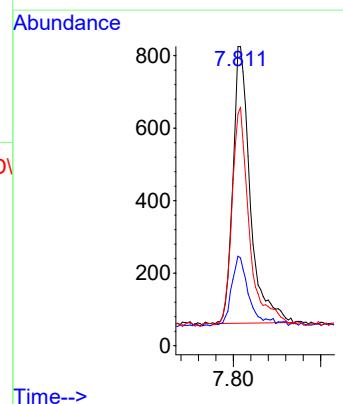
#1  
**TETRAHYDROFURAN-D8**  
Concen: 50.00 ug/L  
RT: 5.699 min Scan# 55  
Delta R.T. 0.000 min  
Lab File: GCMS\_210624010.D  
Acq: 24 Jun 2021 12:09 pm

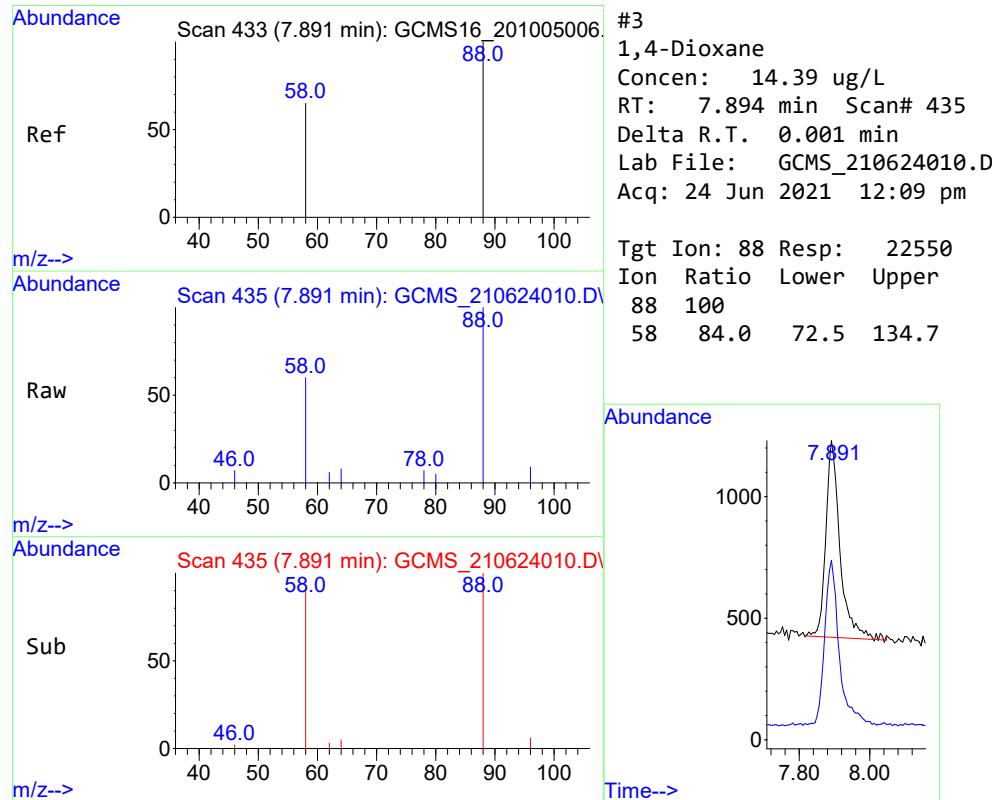
Tgt Ion: 46 Resp: 64030  
Ion Ratio Lower Upper  
46 100  
78 53.4 27.5 51.1#  
80 58.4 29.0 53.9#



#2  
**1,4-Dioxane-d8**  
Concen: 12.80 ug/L  
RT: 7.817 min Scan# 422  
Delta R.T. 0.002 min  
Lab File: GCMS\_210624010.D  
Acq: 24 Jun 2021 12:09 pm

Tgt Ion: 96 Resp: 20901  
Ion Ratio Lower Upper  
96 100  
62 0.0 0.0 0.0  
64 77.4 56.8 105.6





Data Path : D:\MassHunter\GCMS\1\data\210624\_mak\  
Data File : GCMS\_210624011.D  
Acq On : 24 Jun 2021 12:30 pm  
Operator :  
Sample : ICAL L5 25 ppb  
Misc :  
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jun 24 13:15:13 2021

Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M

Quant Title : Initial Calibration of 1,4-Dioxane 021317

QLast Update : Wed Jun 23 14:23:51 2021

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	5.695	46	65563	50.00	ug/L	0.00
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	7.819	96	24154	14.44	ug/L	0.00
<hr/>						
Target Compounds				Qvalue		
3) 1,4-Dioxane	7.898	88	26427	16.47	ug/L	77
<hr/>						

MAK 08/10/2021

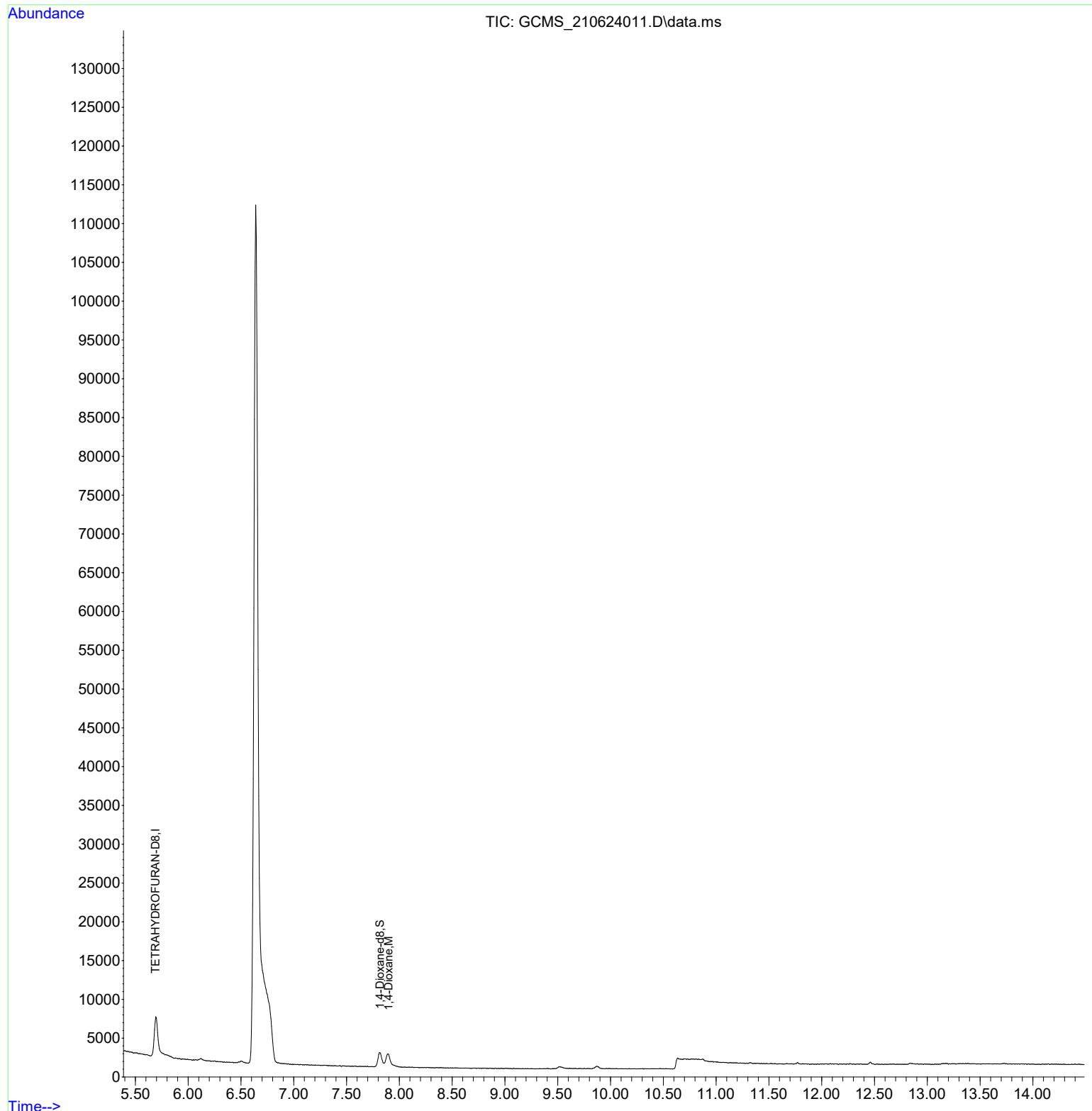
(#) = qualifier out of range (m) = manual integration (+) = signals summed

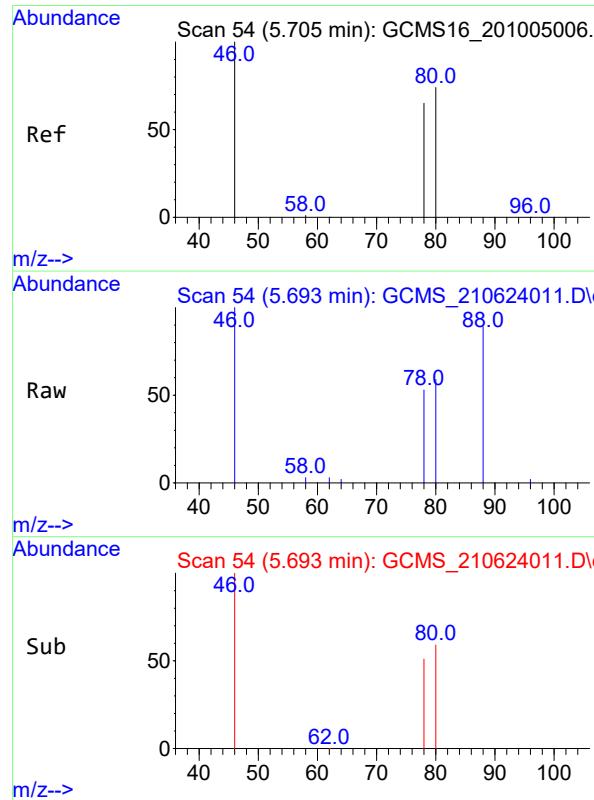
**REVIEWED**

By Bruce Gallant at 8:07 am, Aug 17, 2021

Data Path : D:\MassHunter\GCMS\1\data\210624\_mak\  
Data File : GCMS\_210624011.D  
Acq On : 24 Jun 2021 12:30 pm  
Operator :  
Sample : ICAL L5 25 ppb  
Misc :  
ALS Vial : 9 Sample Multiplier: 1

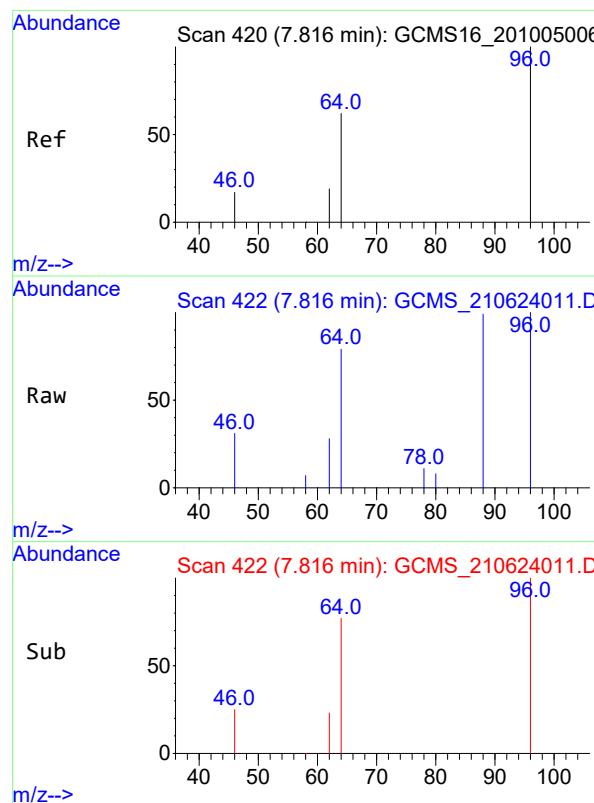
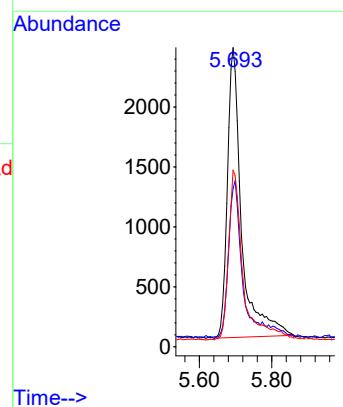
Quant Time: Jun 24 13:15:13 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Wed Jun 23 14:23:51 2021  
Response via : Initial Calibration





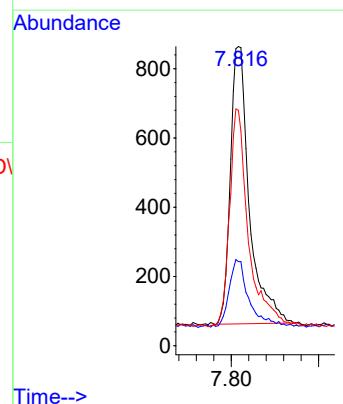
#1  
**TETRAHYDROFURAN-D8**  
Concen: 50.00 ug/L  
RT: 5.695 min Scan# 54  
Delta R.T. -0.004 min  
Lab File: GCMS\_210624011.D  
Acq: 24 Jun 2021 12:30 pm

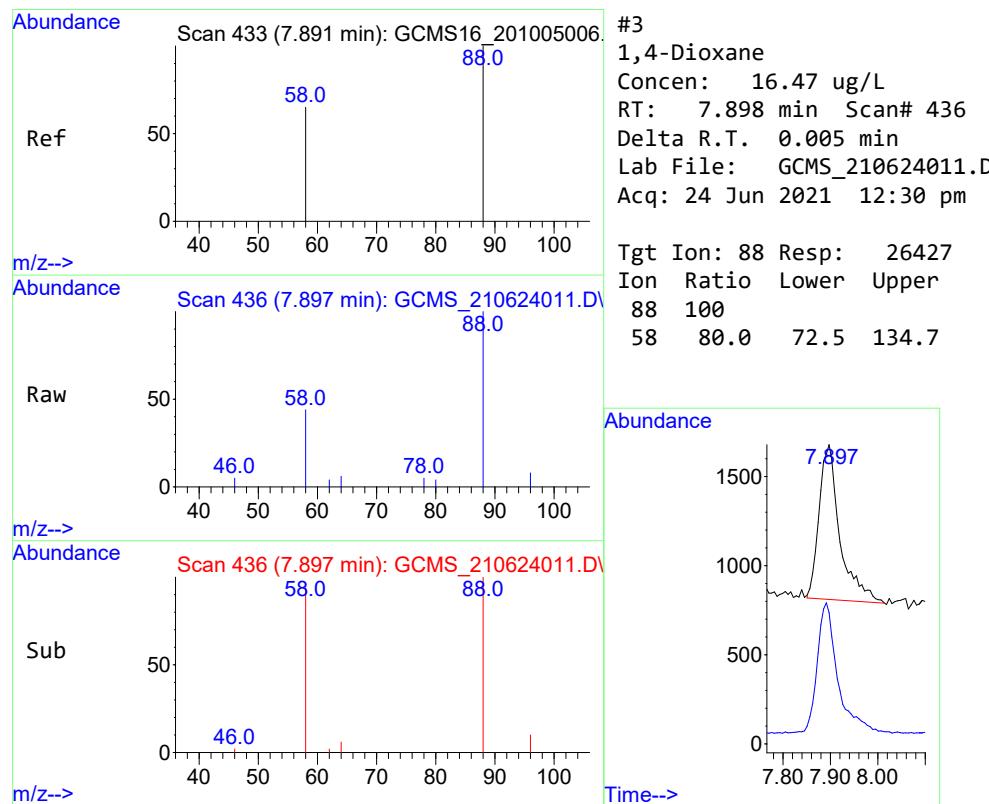
Tgt Ion: 46 Resp: 65563  
Ion Ratio Lower Upper  
46 100  
78 45.4 27.5 51.1  
80 50.9 29.0 53.9



#2  
**1,4-Dioxane-d8**  
Concen: 14.44 ug/L  
RT: 7.819 min Scan# 422  
Delta R.T. 0.004 min  
Lab File: GCMS\_210624011.D  
Acq: 24 Jun 2021 12:30 pm

Tgt Ion: 96 Resp: 24154  
Ion Ratio Lower Upper  
96 100  
62 0.0 0.0 0.0  
64 76.0 56.8 105.6





Data Path : D:\MassHunter\GCMS\1\data\210624\_mak\  
Data File : GCMS\_210624012.D  
Acq On : 24 Jun 2021 12:51 pm  
Operator :  
Sample : ICAL L6 50 ppb  
Misc :  
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jun 24 13:15:18 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Wed Jun 23 14:23:51 2021  
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	5.695	46	62102	50.00	ug/L	# 0.00
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	7.815	96	50865	32.11	ug/L	0.00
<hr/>						
Target Compounds				Qvalue		
3) 1,4-Dioxane	7.892	88	54635	35.95	ug/L	79
<hr/>						

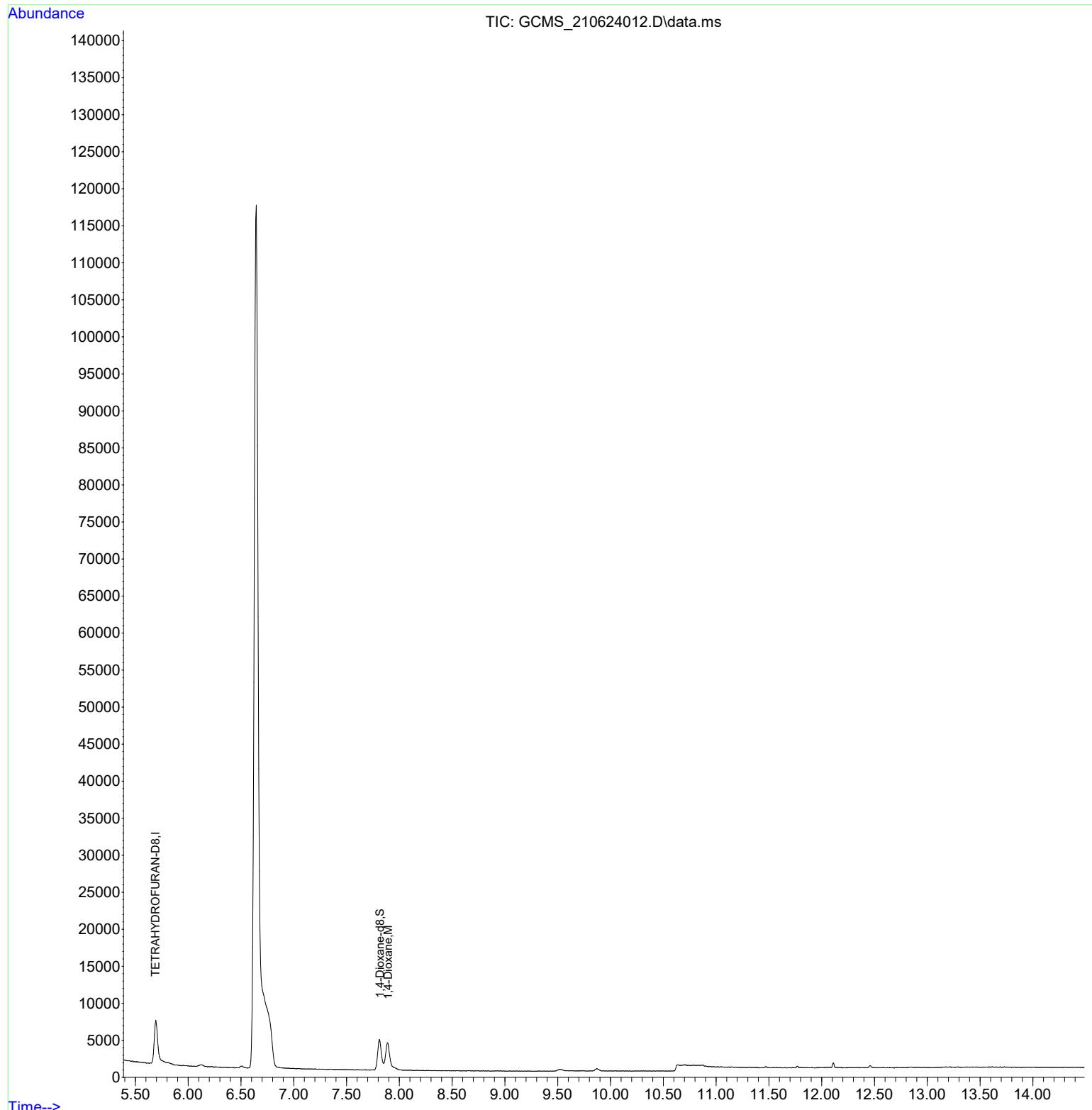
(#) = qualifier out of range (m) = manual integration (+) = signals summed

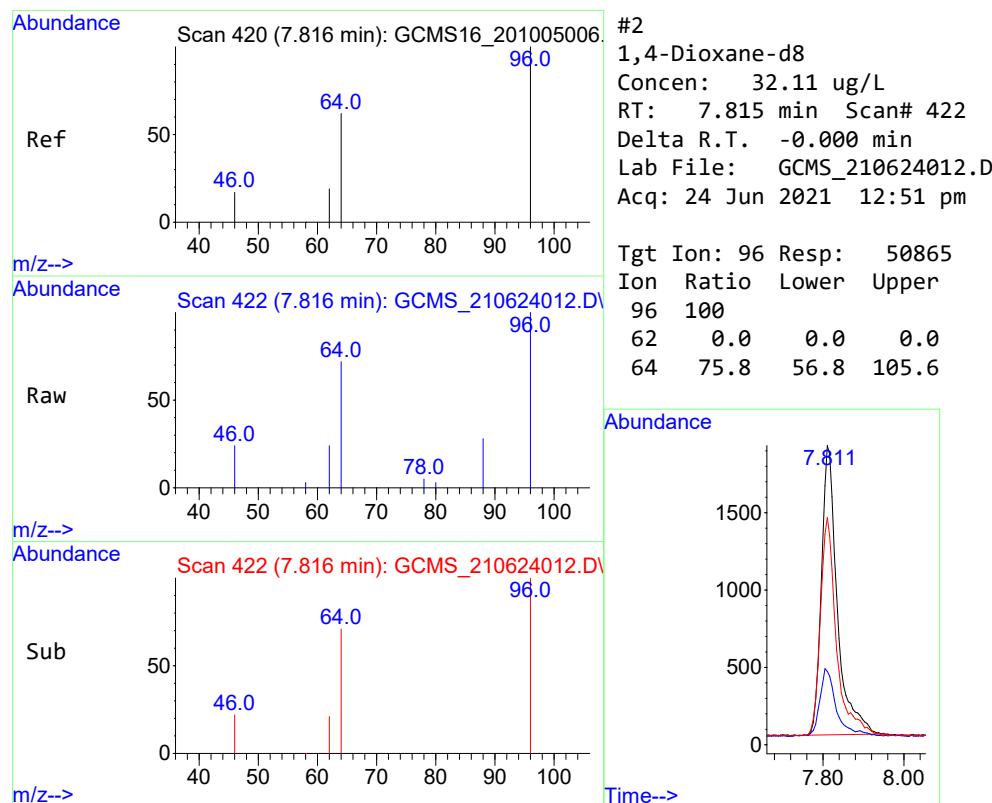
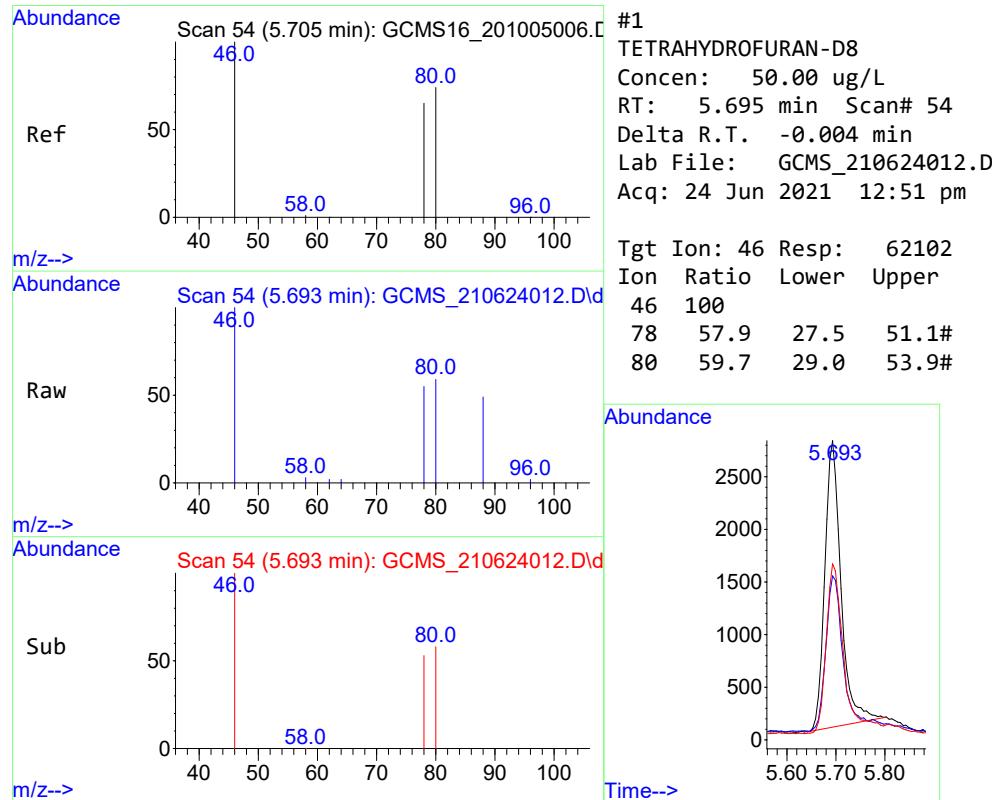
MAK 08/10/2021

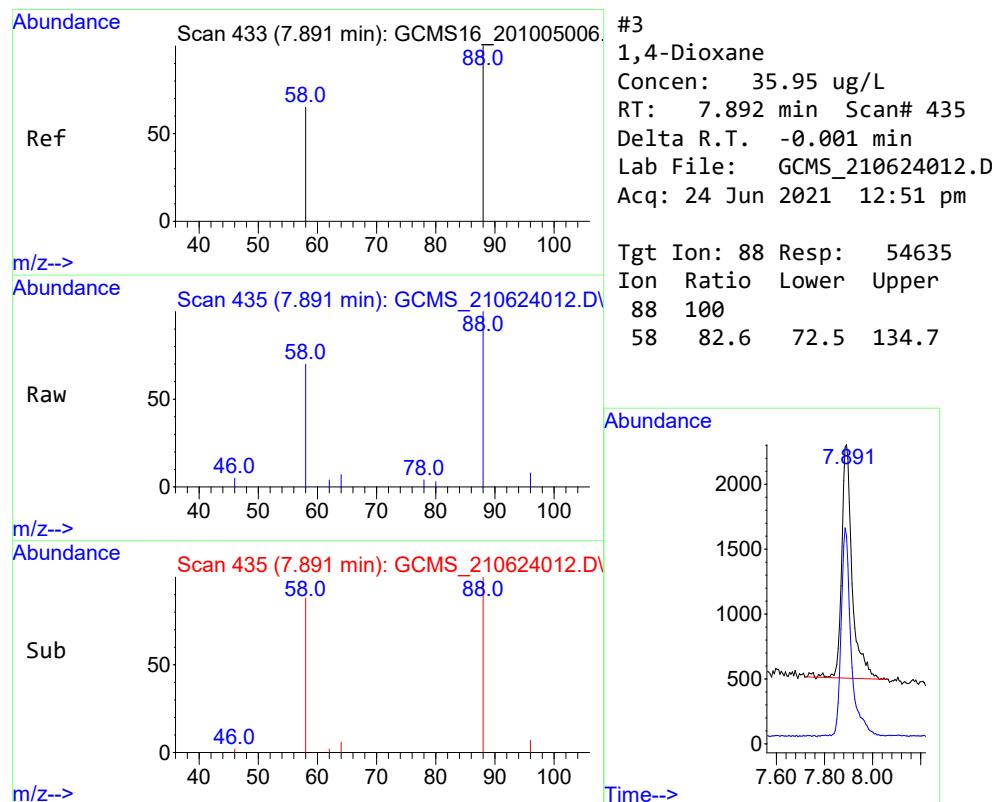
**REVIEWED**  
By Bruce Gallant at 8:08 am, Aug 17, 2021

Data Path : D:\MassHunter\GCMS\1\data\210624.mak\  
Data File : GCMS\_210624012.D  
Acq On : 24 Jun 2021 12:51 pm  
Operator :  
Sample : ICAL L6 50 ppb  
Misc :  
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jun 24 13:15:18 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624.mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Wed Jun 23 14:23:51 2021  
Response via : Initial Calibration







Data Path : D:\MassHunter\GCMS\1\data\210624\_mak\  
Data File : GCMS\_210624013.D  
Acq On : 24 Jun 2021 01:12 pm  
Operator :  
Sample : ICAL L7 100 ppb  
Misc :  
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jul 23 11:34:17 2021

Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M

Quant Title : Initial Calibration of 1,4-Dioxane 021317

QLast Update : Thu Jun 24 15:10:43 2021

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	5.703	46	72219	50.00	ug/L	# 0.00
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	7.817	96	116566	100.21	ug/L	0.00
<hr/>						
Target Compounds				Qvalue		
3) 1,4-Dioxane	7.895	88	120758	98.59	ug/L	82
<hr/>						

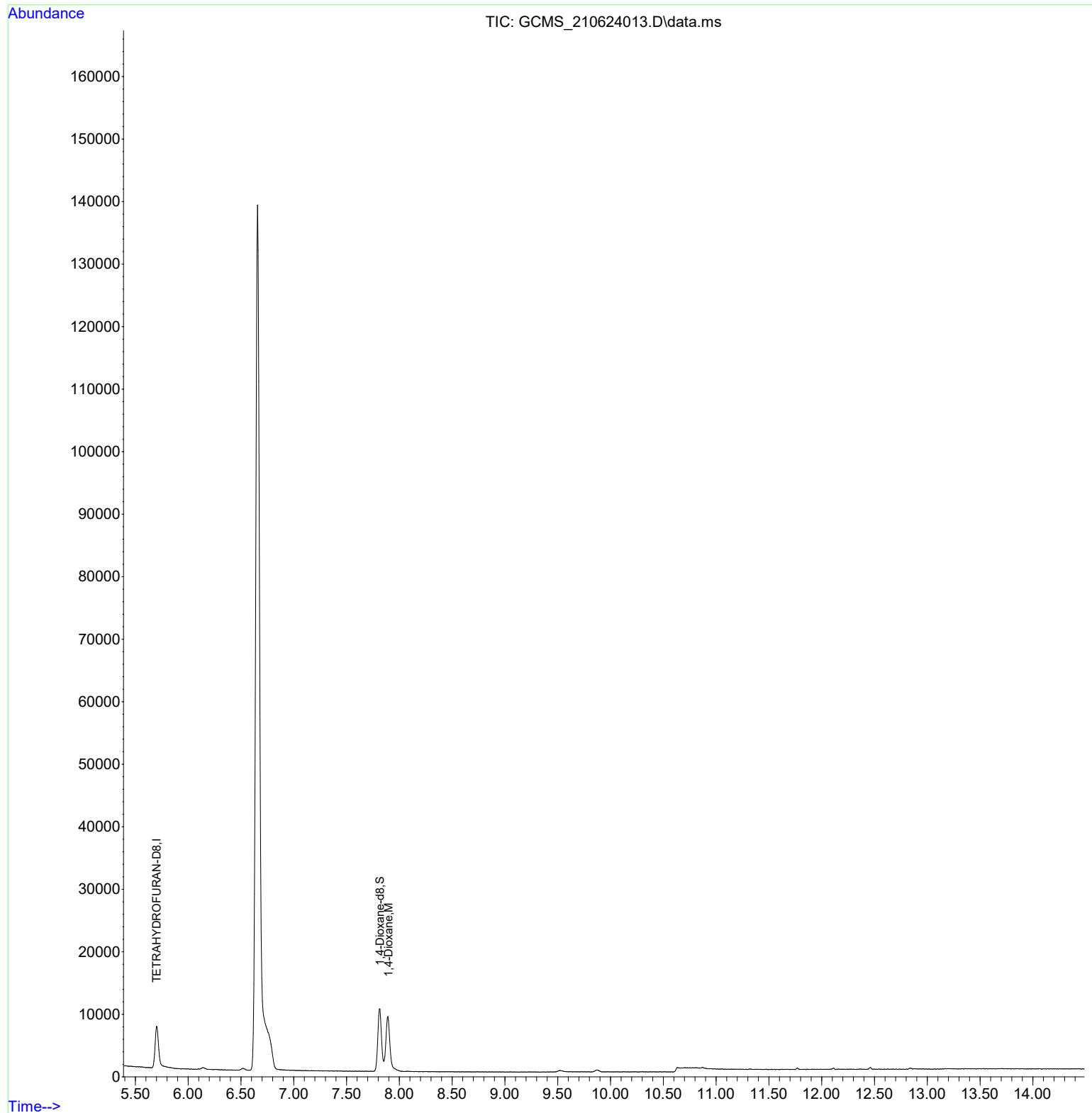
MAK 08/10/2021

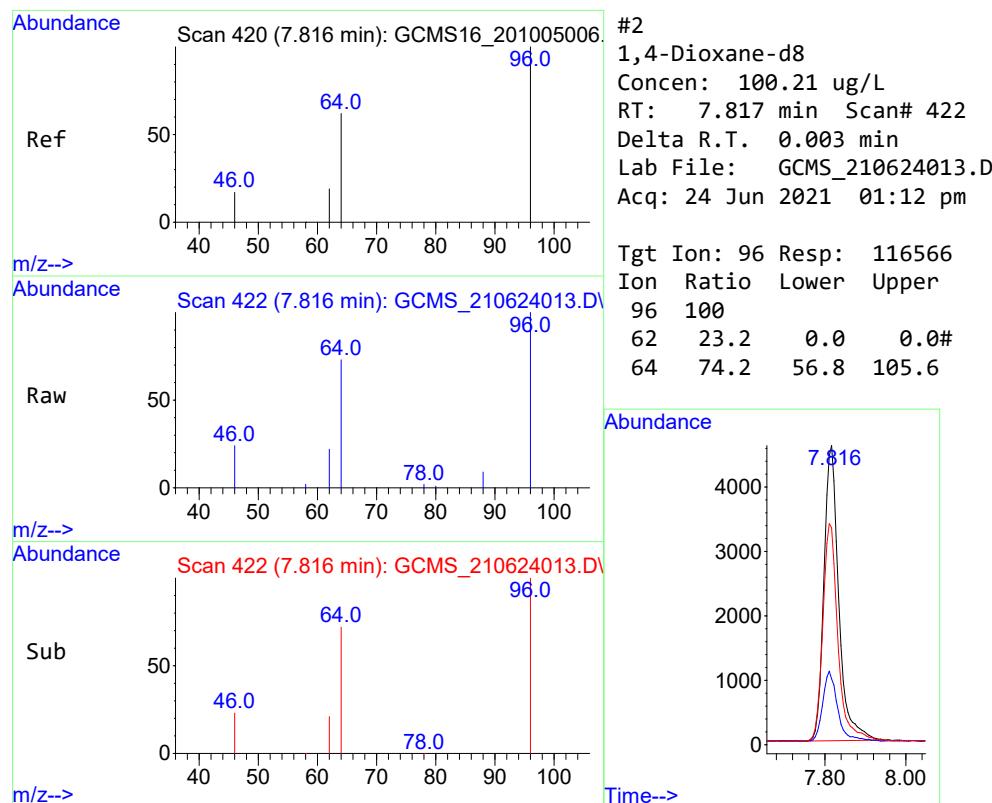
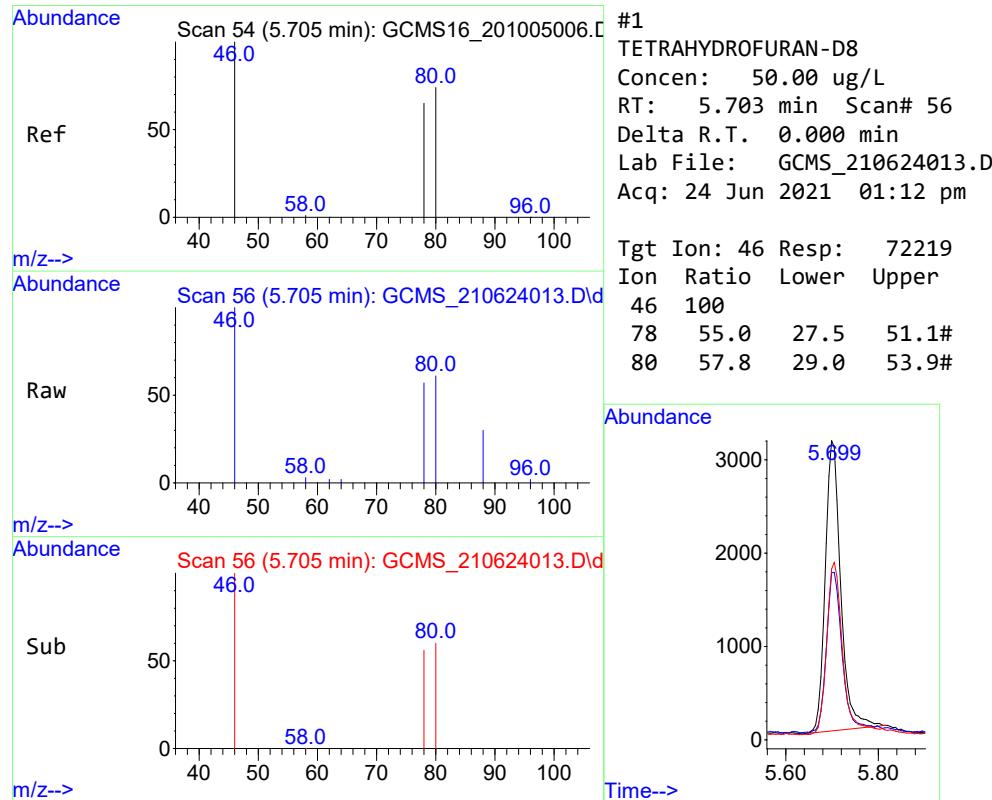
(#) = qualifier out of range (m) = manual integration (+) = signals summed

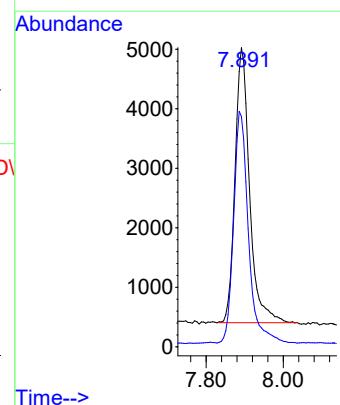
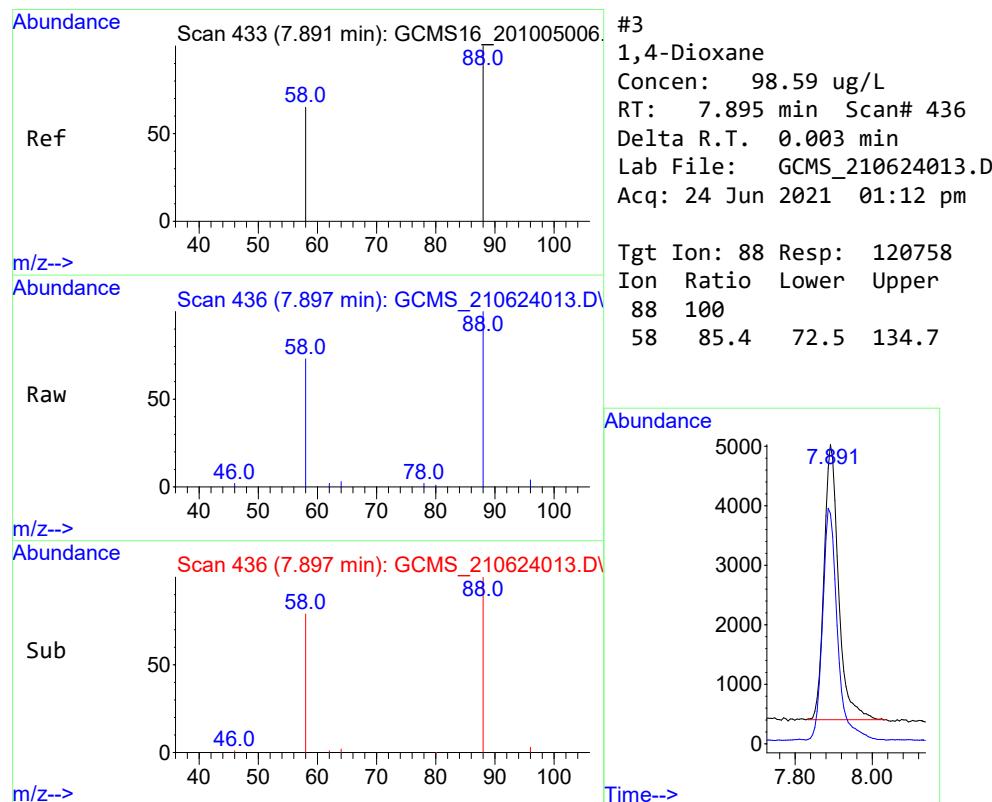


Data Path : D:\MassHunter\GCMS\1\data\210624.mak\  
Data File : GCMS\_210624013.D  
Acq On : 24 Jun 2021 01:12 pm  
Operator :  
Sample : ICAL L7 100 ppb  
Misc :  
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jul 23 11:34:17 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624.mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration







Data Path : D:\MassHunter\GCMS\1\data\210624\_mak\  
Data File : GCMS\_210624014.D  
Acq On : 24 Jun 2021 01:33 pm  
Operator :  
Sample : ICAL L8 250 ppb  
Misc :  
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jul 23 11:34:18 2021

Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M

Quant Title : Initial Calibration of 1,4-Dioxane 021317

QLast Update : Thu Jun 24 15:10:43 2021

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	5.702	46	68448	50.00	ug/L	# 0.00
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	7.812	96	287146	260.46	ug/L	0.00
<hr/>						
Target Compounds				Qvalue		
3) 1,4-Dioxane	7.890	88	298494	257.12	ug/L	81
<hr/>						

MAK 08/10/2021

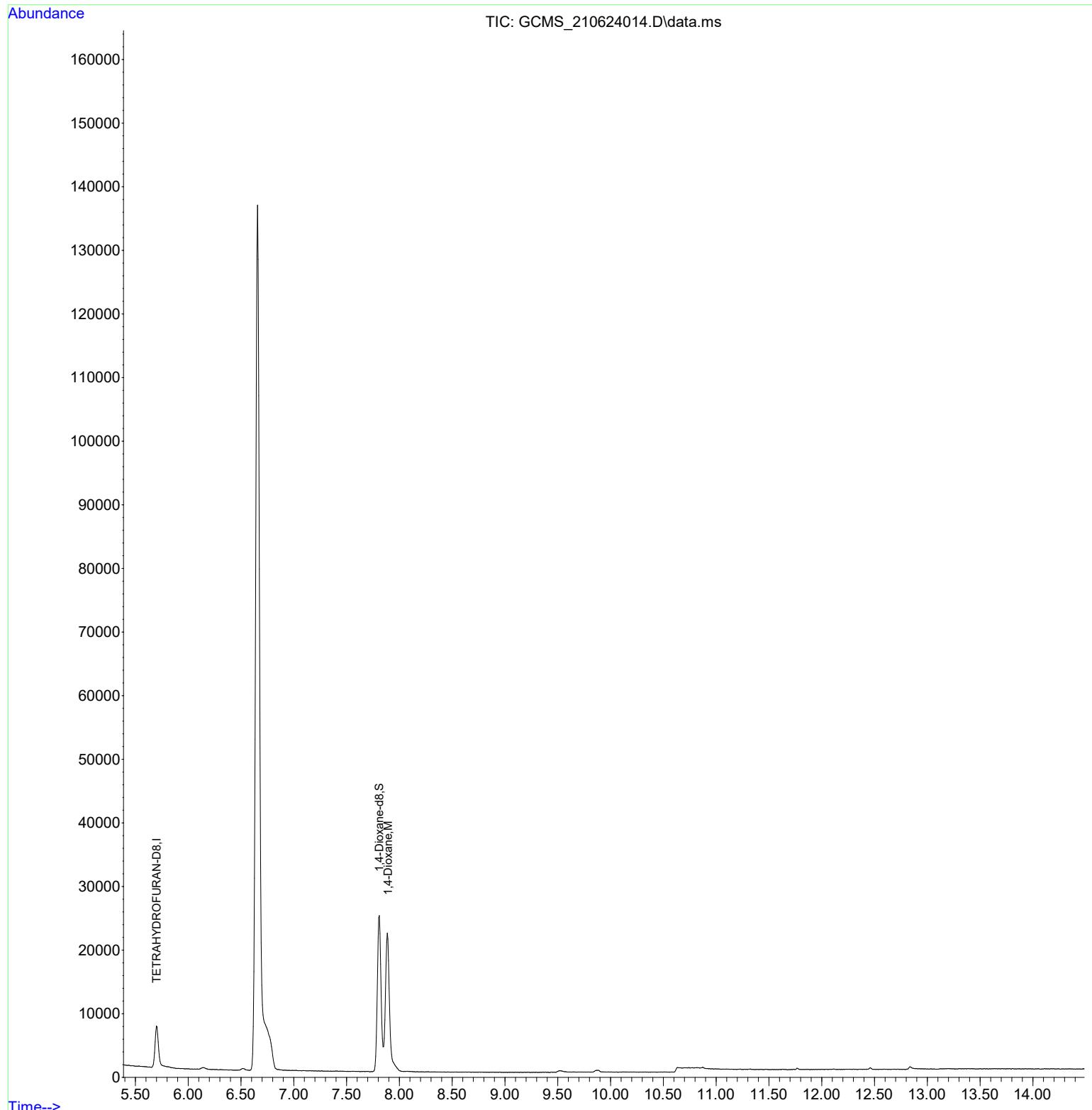
(#) = qualifier out of range (m) = manual integration (+) = signals summed

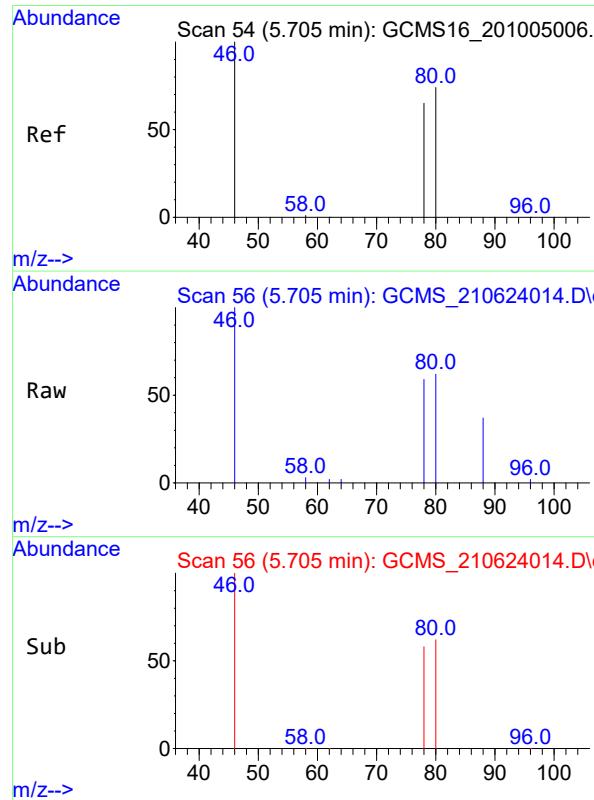
**REVIEWED**

By Bruce Gallant at 8:08 am, Aug 17, 2021

Data Path : D:\MassHunter\GCMS\1\data\210624\_mak\  
Data File : GCMS\_210624014.D  
Acq On : 24 Jun 2021 01:33 pm  
Operator :  
Sample : ICAL L8 250 ppb  
Misc :  
ALS Vial : 12 Sample Multiplier: 1

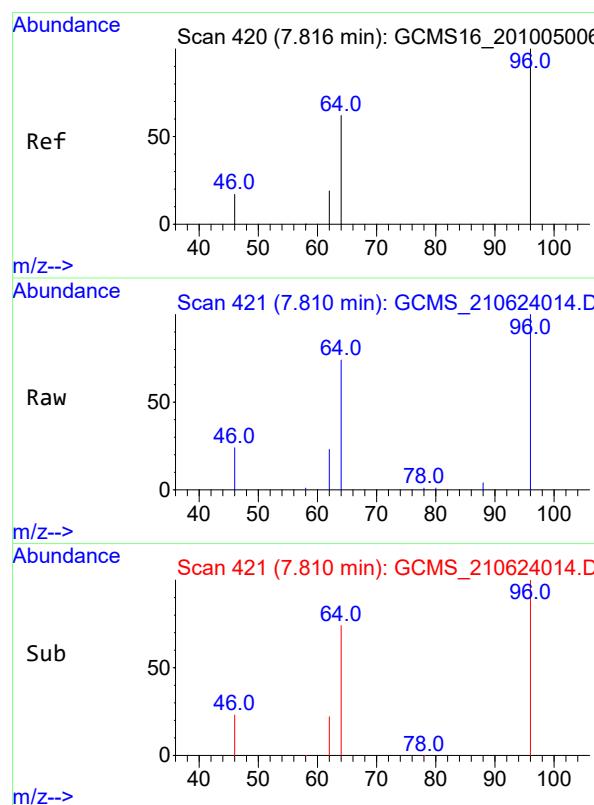
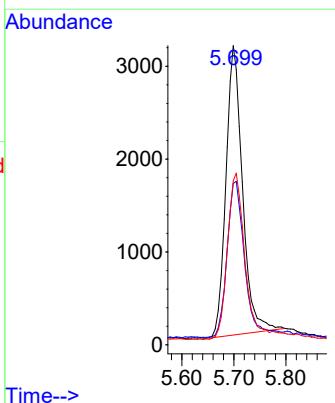
Quant Time: Jul 23 11:34:18 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration





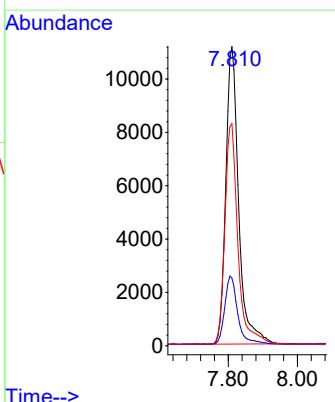
#1  
**TETRAHYDROFURAN-D8**  
Concen: 50.00 ug/L  
RT: 5.702 min Scan# 56  
Delta R.T. -0.001 min  
Lab File: GCMS\_210624014.D  
Acq: 24 Jun 2021 01:33 pm

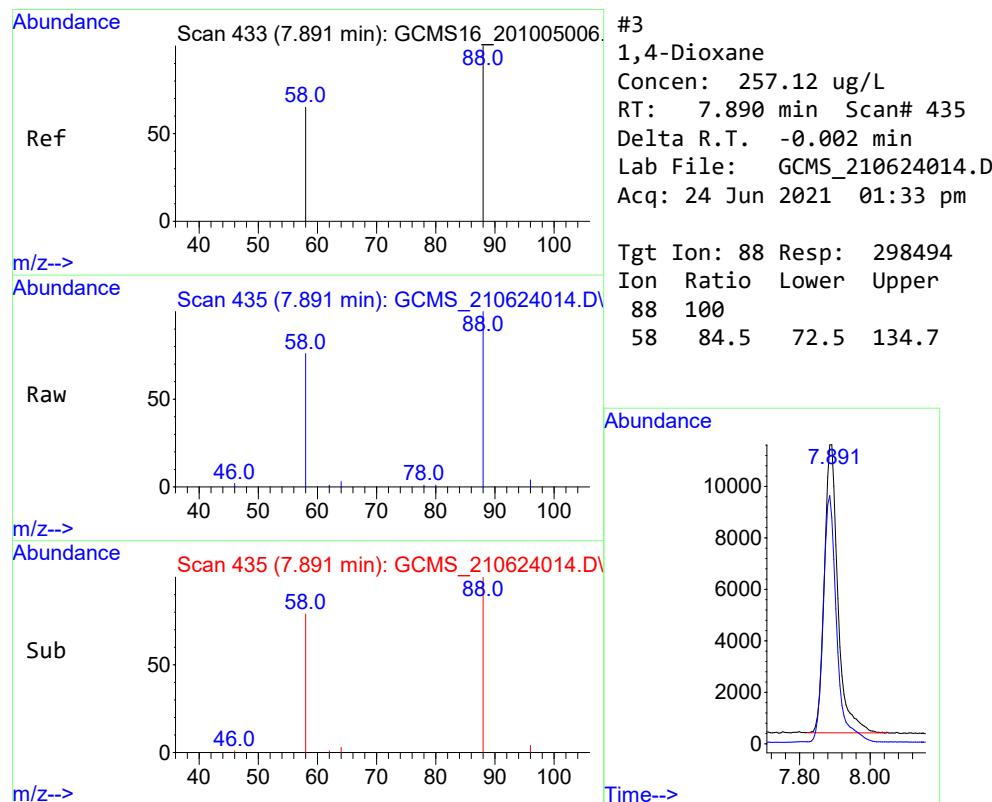
Tgt Ion: 46 Resp: 68448  
Ion Ratio Lower Upper  
46 100  
78 53.4 27.5 51.1#  
80 57.5 29.0 53.9#



#2  
**1,4-Dioxane-d8**  
Concen: 260.46 ug/L  
RT: 7.812 min Scan# 421  
Delta R.T. -0.002 min  
Lab File: GCMS\_210624014.D  
Acq: 24 Jun 2021 01:33 pm

Tgt Ion: 96 Resp: 287146  
Ion Ratio Lower Upper  
96 100  
62 23.0 0.0 0.0#  
64 74.7 56.8 105.6





Data Path : D:\MassHunter\GCMS\1\data\210624\_mak\  
Data File : GCMS\_210624015.D  
Acq On : 24 Jun 2021 01:54 pm  
Operator :  
Sample : ICAL L9 500 ppb  
Misc :  
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jul 23 11:34:19 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	5.707	46	76693	50.00	ug/L	# 0.00
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	7.813	96	625223	506.16	ug/L	0.00
<hr/>						
Target Compounds				Qvalue		
3) 1,4-Dioxane	7.891	88	650605	500.18	ug/L	81
<hr/>						

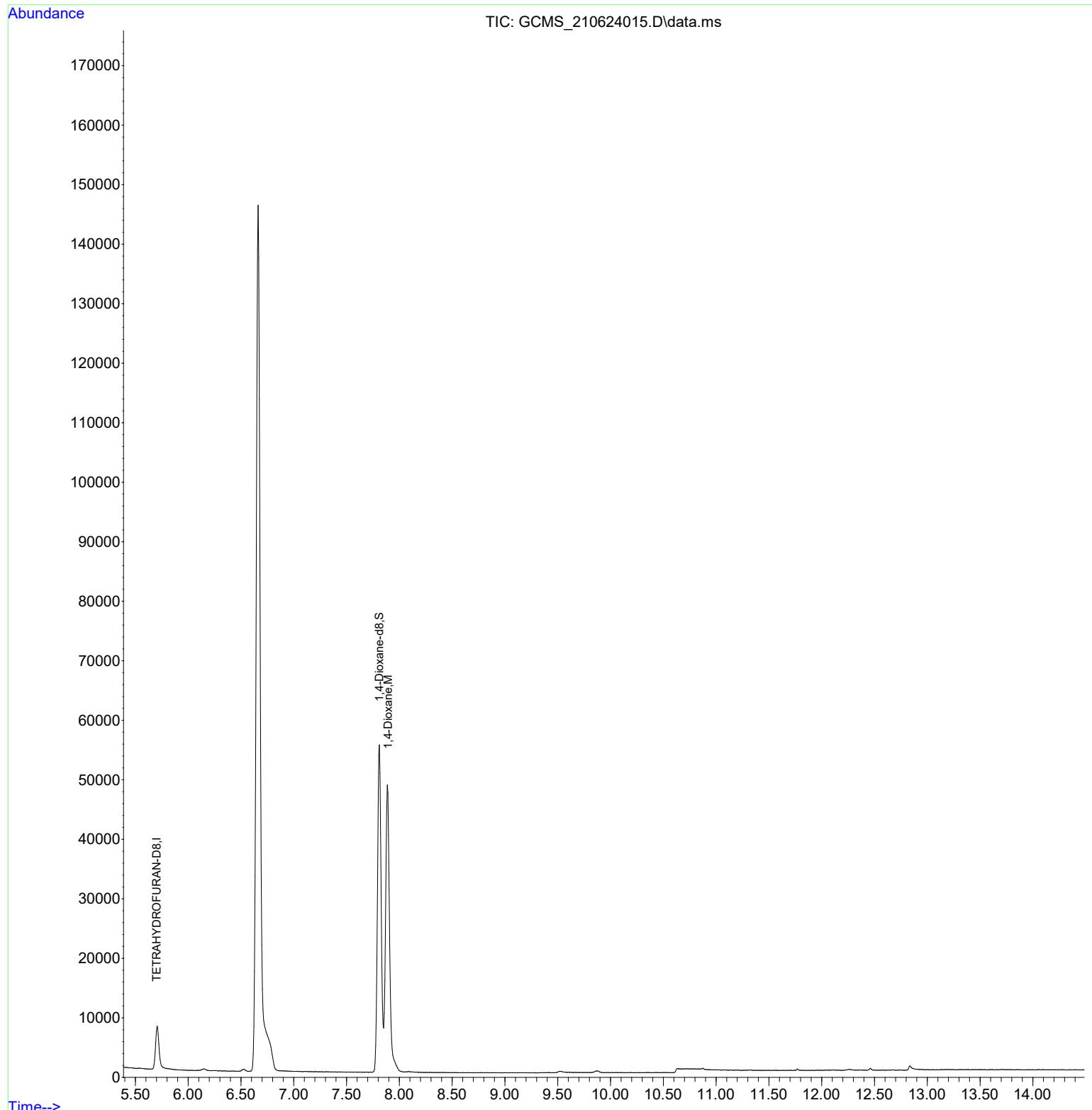
(#) = qualifier out of range (m) = manual integration (+) = signals summed

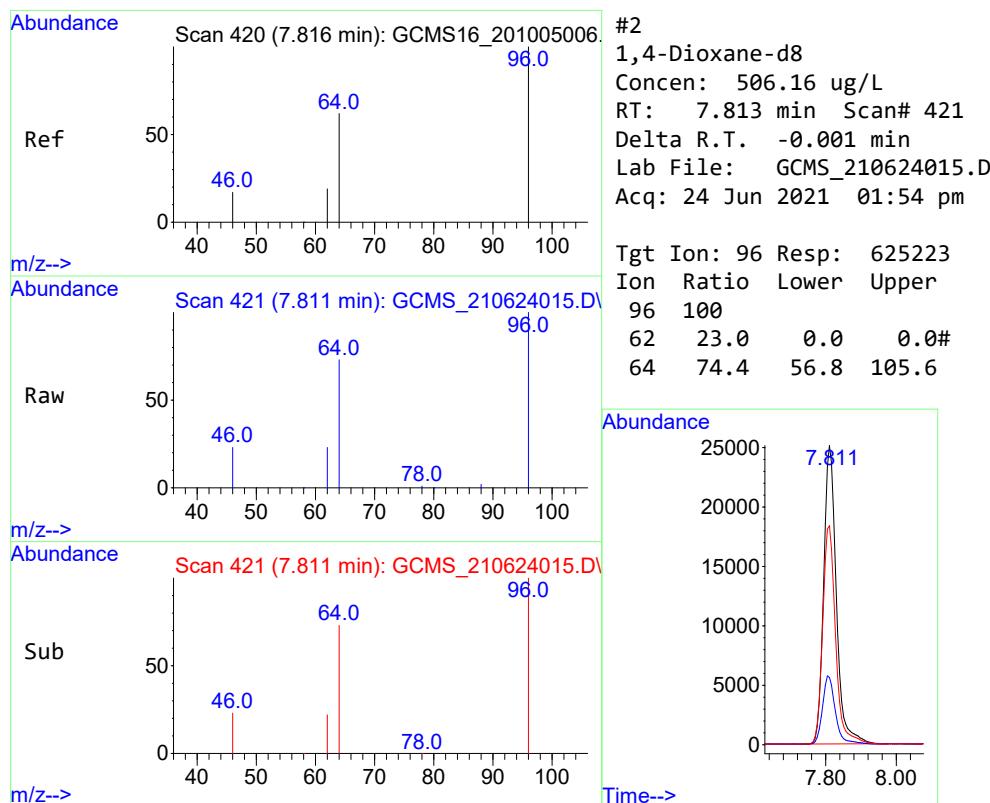
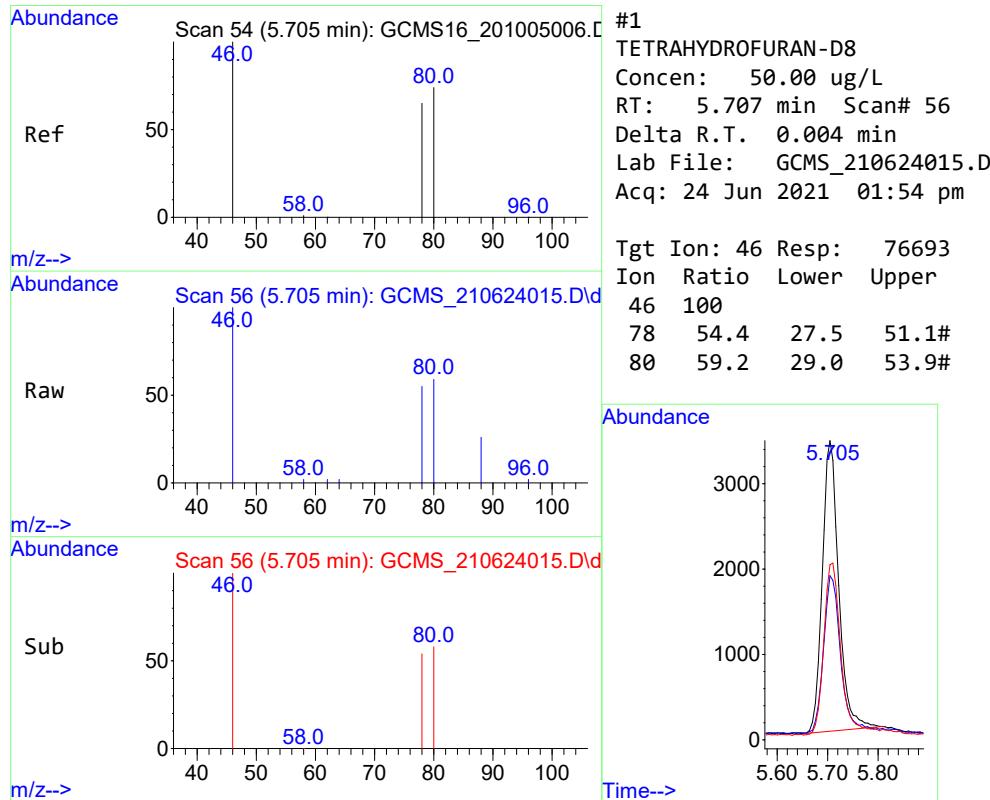
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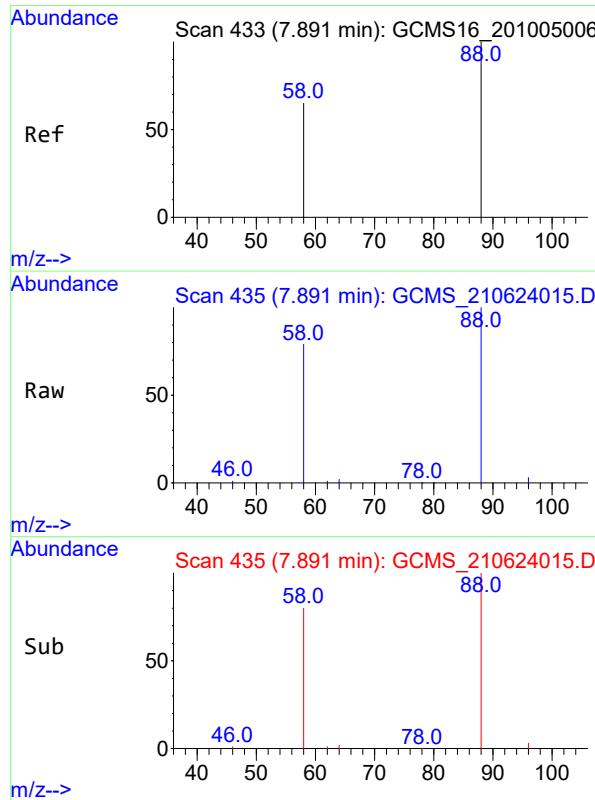
**REVIEWED**  
By Bruce Gallant at 8:08 am, Aug 17, 2021

Data Path : D:\MassHunter\GCMS\1\data\210624\_mak\  
Data File : GCMS\_210624015.D  
Acq On : 24 Jun 2021 01:54 pm  
Operator :  
Sample : ICAL L9 500 ppb  
Misc :  
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jul 23 11:34:19 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration

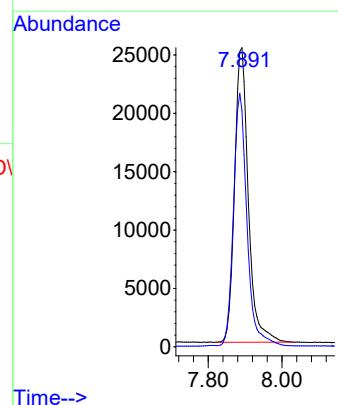






#3  
 1,4-Dioxane  
 Concen: 500.18 ug/L  
 RT: 7.891 min Scan# 435  
 Delta R.T. -0.001 min  
 Lab File: GCMS\_210624015.D  
 Acq: 24 Jun 2021 01:54 pm

Tgt Ion: 88 Resp: 650605  
 Ion Ratio Lower Upper  
 88 100  
 58 84.1 72.5 134.7



Data Path : D:\MassHunter\GCMS\1\data\210624\_mak\  
Data File : GCMS\_210624016.D  
Acq On : 24 Jun 2021 02:15 pm  
Operator :  
Sample : ICAL L10 1000 ppb  
Misc :  
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jul 23 11:34:20 2021

Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M

Quant Title : Initial Calibration of 1,4-Dioxane 021317

QLast Update : Thu Jun 24 15:10:43 2021

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	5.705	46	75694	50.00	ug/L	# 0.00
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	7.812	96	1200017	984.31	ug/L	0.00
<hr/>						
Target Compounds				Qvalue		
3) 1,4-Dioxane	7.890	88	1246221	970.72	ug/L	81
<hr/>						

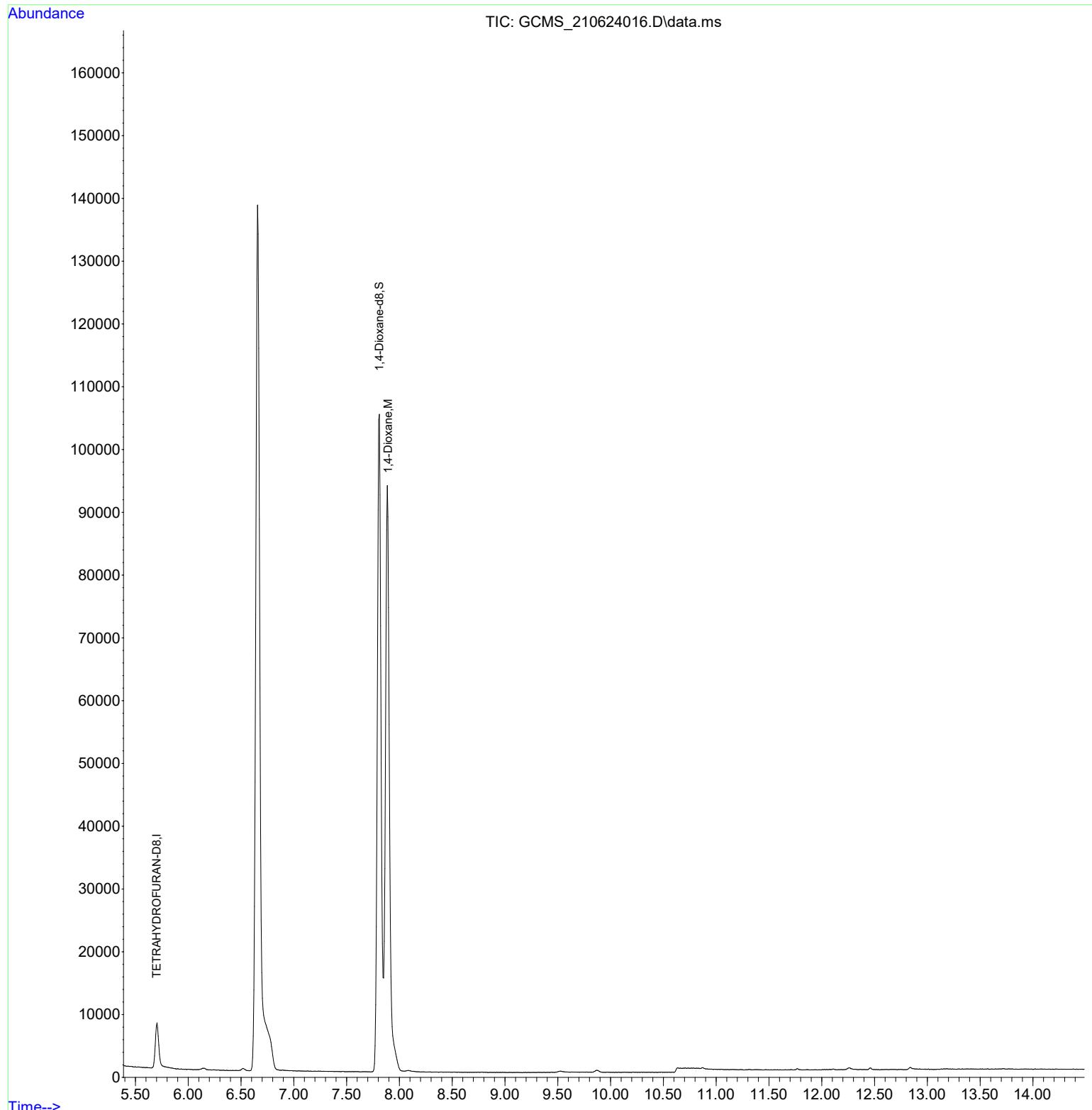
MAK 08/10/2021

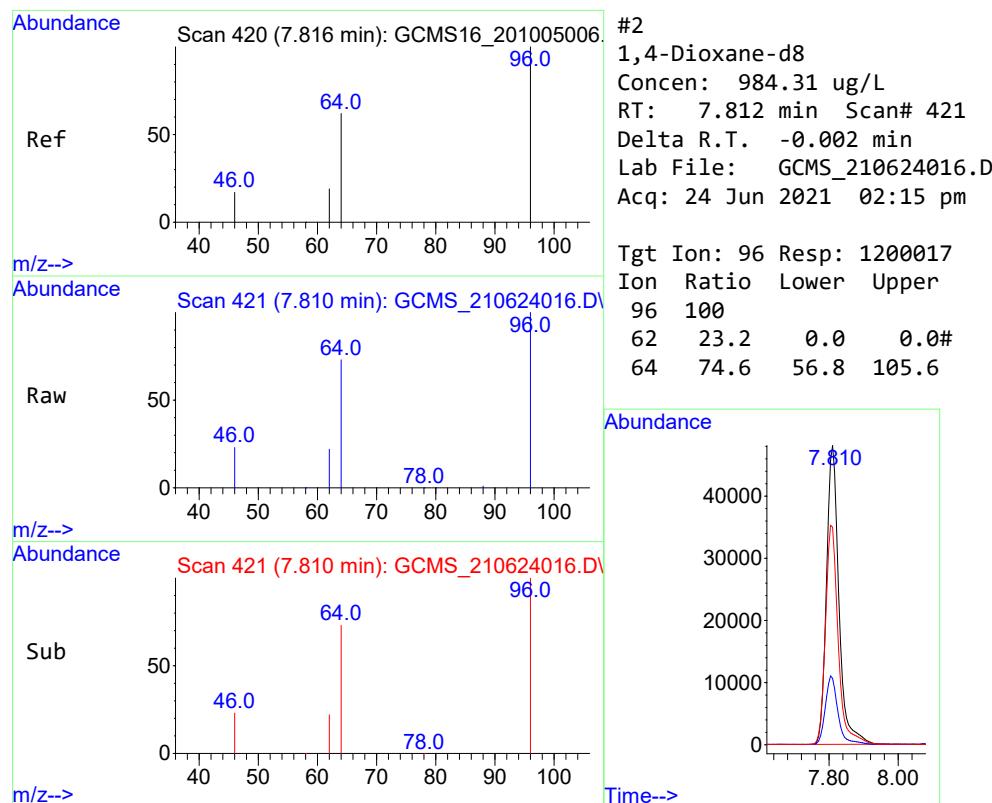
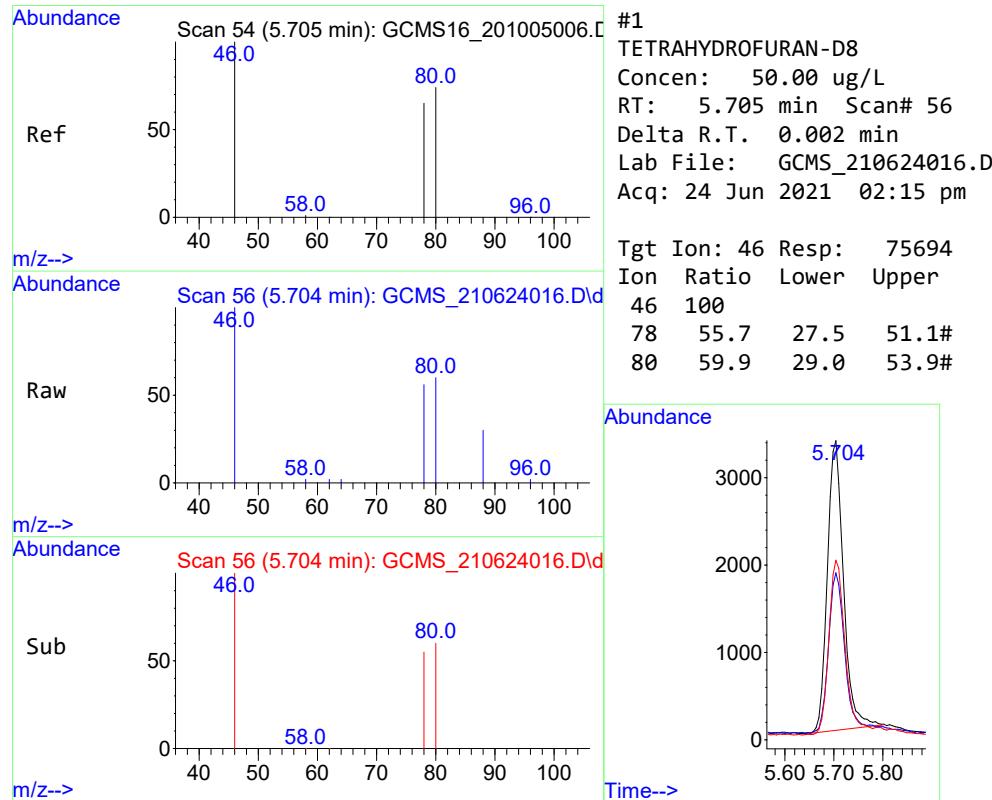
(#) = qualifier out of range (m) = manual integration (+) = signals summed

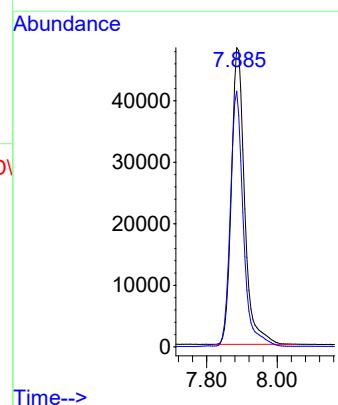
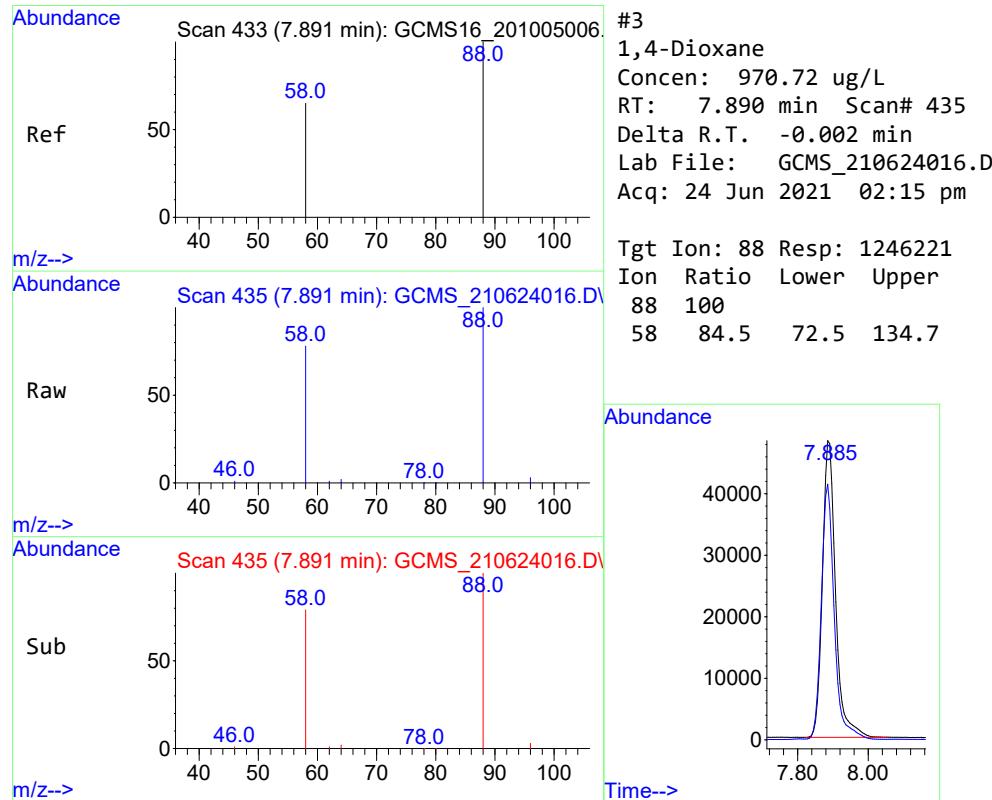


Data Path : D:\MassHunter\GCMS\1\data\210624.mak\  
Data File : GCMS\_210624016.D  
Acq On : 24 Jun 2021 02:15 pm  
Operator :  
Sample : ICAL L10 1000 ppb  
Misc :  
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jul 23 11:34:20 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624.mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration







Data Path : D:\MassHunter\Data\210624\_mak\  
Data File : GCMS\_210624018.D  
Acq On : 24 Jun 2021 02:57 pm  
Operator :  
Sample : ICV 25ppb  
Misc :  
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Jun 24 15:12:53 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
Max. RRF Dev : 30% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area	% Dev(min)
1 I	TETRAHYDROFURAN-D8	50.000	50.000	0.0	99	0.00
2 S	1,4-Dioxane-d8	25.000	0.000	100.0#	0	-7.81# not spiked
3 M	1,4-Dioxane	25.000	27.316	-9.3	114	0.00 ok

(#) = Out of Range SPCC's out = 0 CCC's out = 0

MAK 08/10/2021

**REVIEWED**  
By Bruce Gallant at 8:09 am, Aug 17, 2021

Data Path : D:\MassHunter\GCMS\1\data\210624\_mak\  
Data File : GCMS\_210624018.D  
Acq On : 24 Jun 2021 02:57 pm  
Operator :  
Sample : ICV 25ppb  
Misc :  
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Jun 24 15:12:53 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration

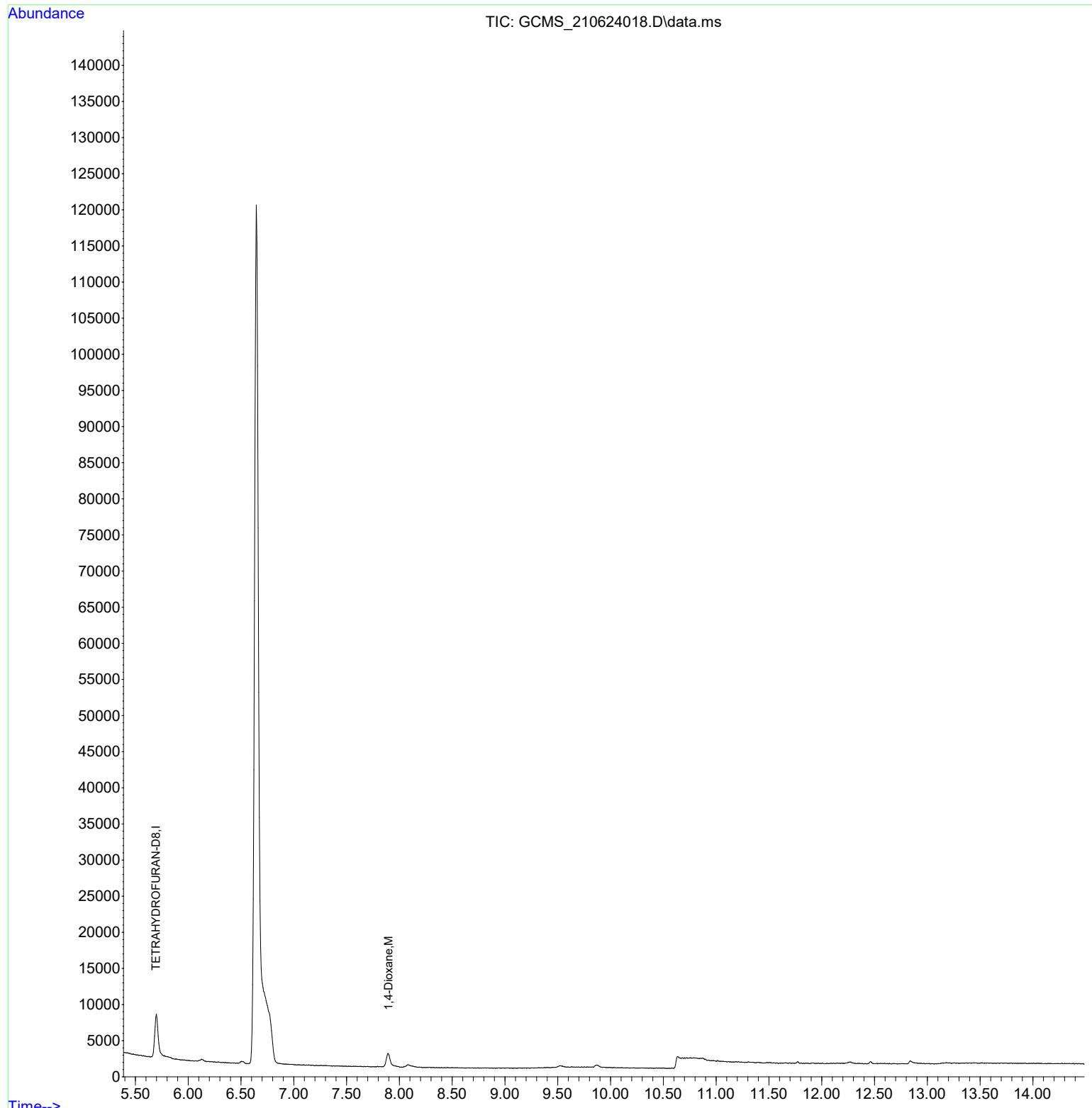
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	5.700	46	64847	50.00	ug/L	# 0.00
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	0.000	96	0	0.00	ug/L	
<hr/>						
Target Compounds				Qvalue		
3) 1,4-Dioxane	7.897	88	30043	27.32	ug/L	75
<hr/>						

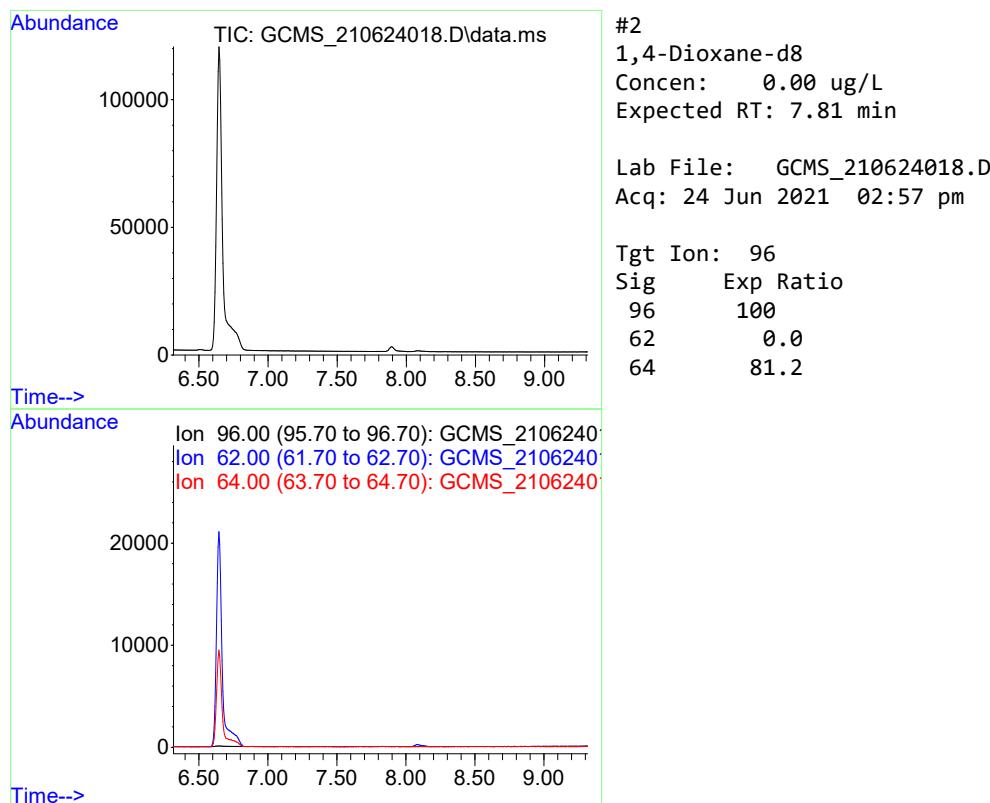
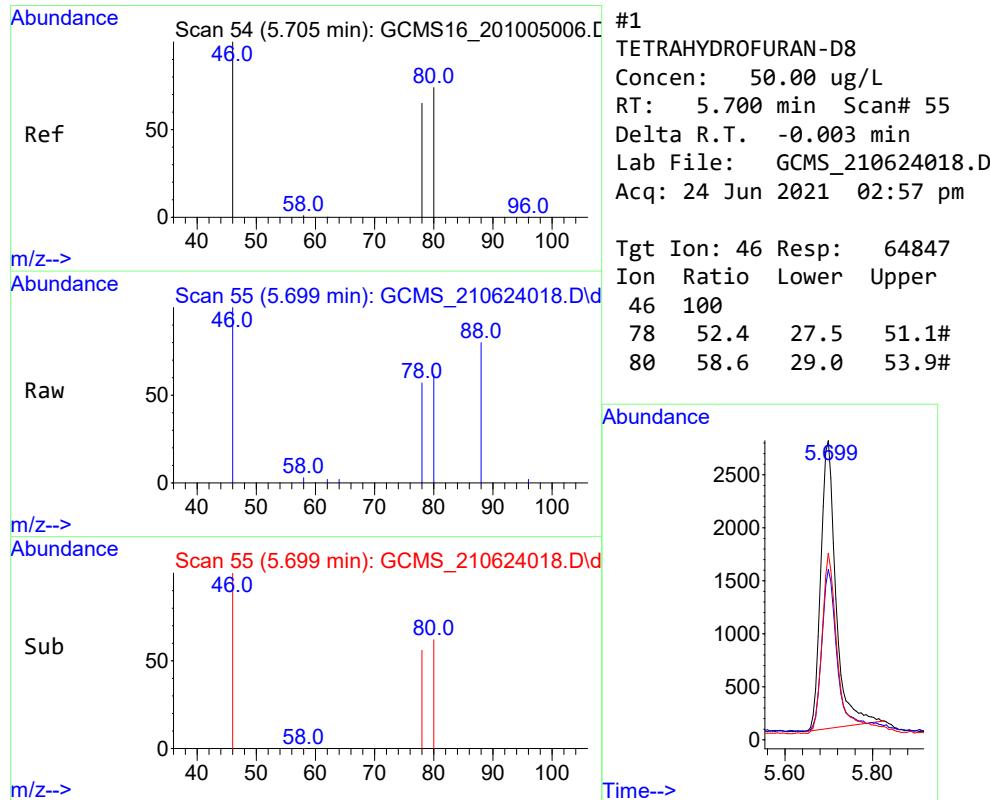
(#) = qualifier out of range (m) = manual integration (+) = signals summed

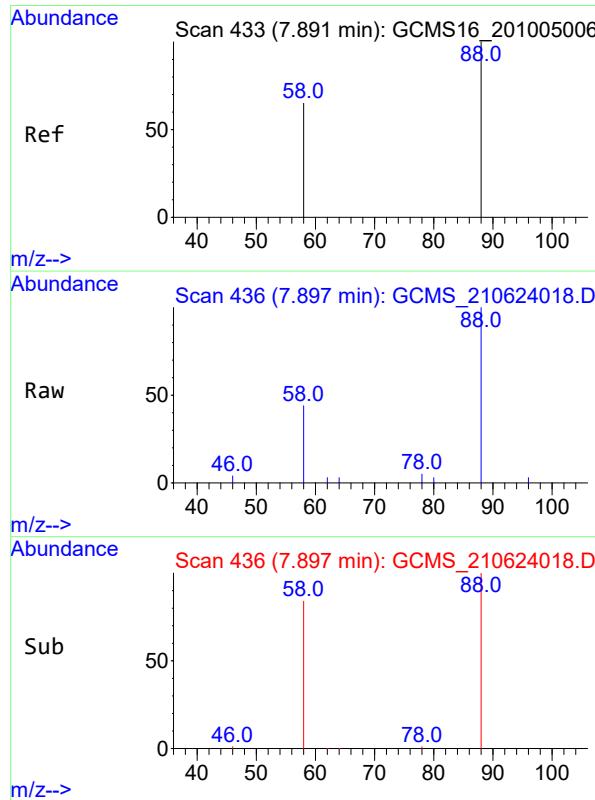
**REVIEWED**  
By Bruce Gallant at 8:10 am, Aug 17, 2021

Data Path : D:\MassHunter\GCMS\1\data\210624\_mak\  
Data File : GCMS\_210624018.D  
Acq On : 24 Jun 2021 02:57 pm  
Operator :  
Sample : ICV 25ppb  
Misc :  
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Jun 24 15:12:53 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration

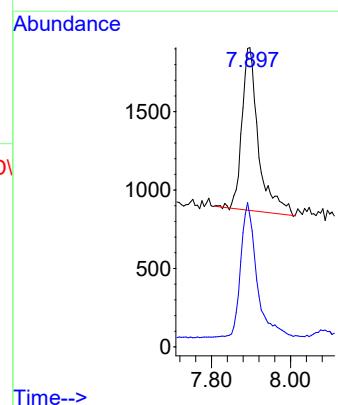






#3  
 1,4-Dioxane  
 Concen: 27.32 ug/L  
 RT: 7.897 min Scan# 436  
 Delta R.T. 0.005 min  
 Lab File: GCMS\_210624018.D  
 Acq: 24 Jun 2021 02:57 pm

Tgt Ion: 88 Resp: 30043  
 Ion Ratio Lower Upper  
 88 100  
 58 78.1 72.5 134.7



## **QC Data**

## **Blank Summary**

**Method Blank:**      **E21F007-BLK1**

**Laboratory ID:**

E21F007-MRL1  
E21F007-BS1  
E21F007-BSD1  
E200607-01  
E21F007-MS1  
E21F007-MSD1  
E200602-01

E200607-01  
E200607-01-01

**Sample ID:**

Reporting Limit Spike  
Blank Spike  
Blank Spike Duplicate  
A7-MW144-210623  
A7-MW144-210623  
A7-MW144-210623  
A11-MW501-210608 (TB)

## **Blank Summary**

**Method Blank:**      **E21G004-BLK1**

**Laboratory ID:**

E21G004-MRL1  
E21G004-BS1  
E21G004-BSD1  
E200602-02RE1  
E200602-03RE1  
E200602-04RE1  
E200602-05RE1  
E200602-06RE1  
E200602-07RE1

**Sample ID:**

Reporting Limit Spike  
Blank Spike  
Blank Spike Duplicate  
A11-MW130A-210608  
A11-MW006-210608  
A11-MW005-210608  
A11-MW004B-210608  
A11-MW001-210608  
A11-MW601-210608 (FB)

# **Blank Summary**

**Method Blank:**      **E21G005-BLK1**

**Laboratory ID:**

E21G005-MRL1  
E21G005-BS1  
E21G005-BSD1  
E200603-01RE1  
E200603-02RE1  
E200603-03RE1  
E200603-04RE1  
E200603-05RE1  
E200603-06RE1

**Sample ID:**

Reporting Limit Spike  
Blank Spike  
Blank Spike Duplicate  
A11-MW002-210609  
A11-MW003-210609  
A11-MW004A-210609  
A11-MW007-210609  
A11-MW502-210609 (TB)  
A11-MW007-210609

Data Path : D:\MassHunter\Data\210630Amak\  
Data File : GCMS\_210630007.D  
Acq On : 30 Jun 2021 06:27 pm  
Operator :  
Sample : E21F007-BLK1  
Misc :  
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 01 11:30:04 2021

Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M

Quant Title : Initial Calibration of 1,4-Dioxane 021317

QLast Update : Thu Jun 24 15:10:43 2021

Response via : Initial Calibration

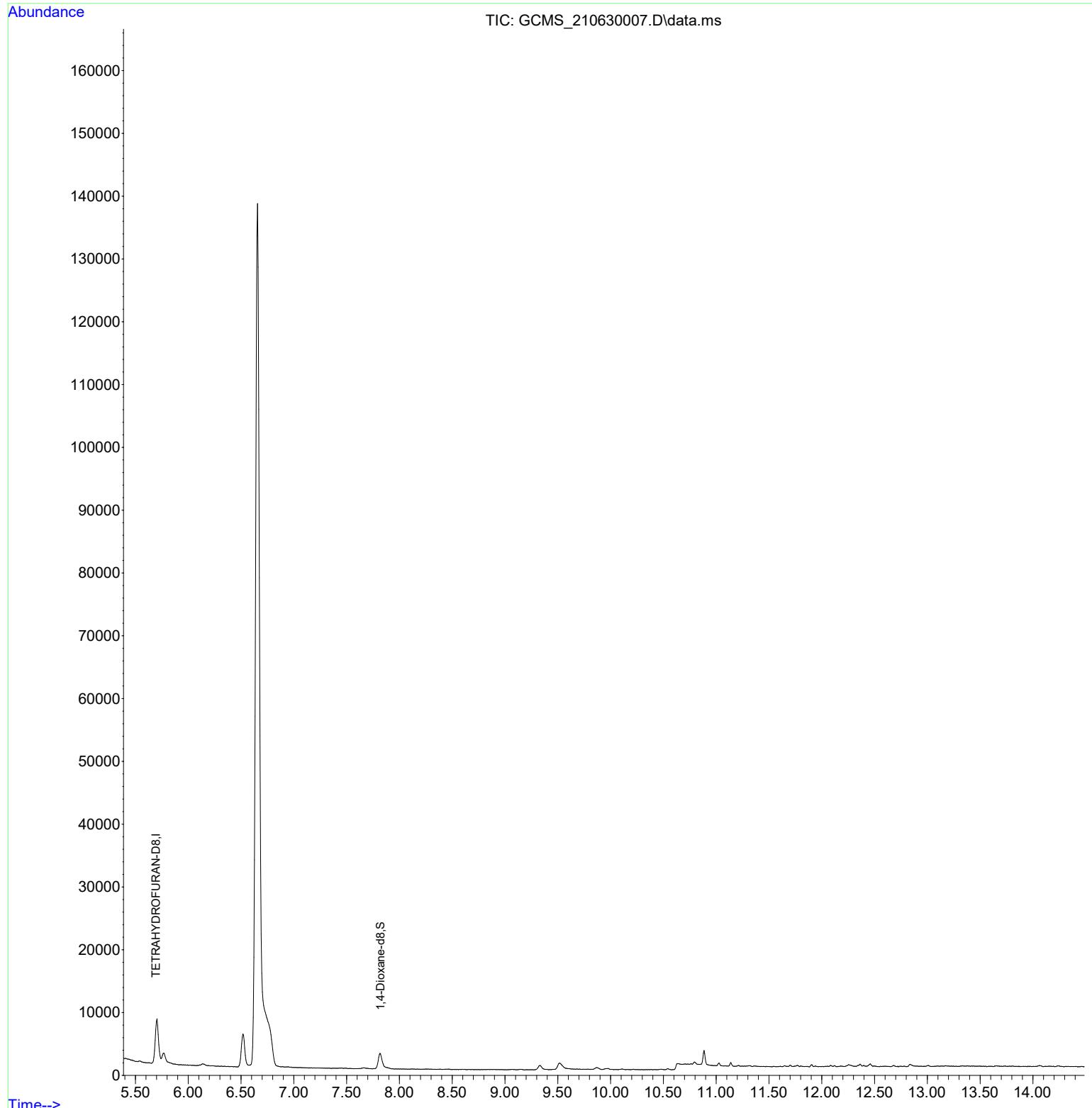
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	5.698	46	71815m	50.00	ug/L	0.00
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	7.820	96	30468	26.34	ug/L	0.00
<hr/>						
Target Compounds				Qvalue		
3) 1,4-Dioxane	0.000		0	N.D.		
<hr/>						

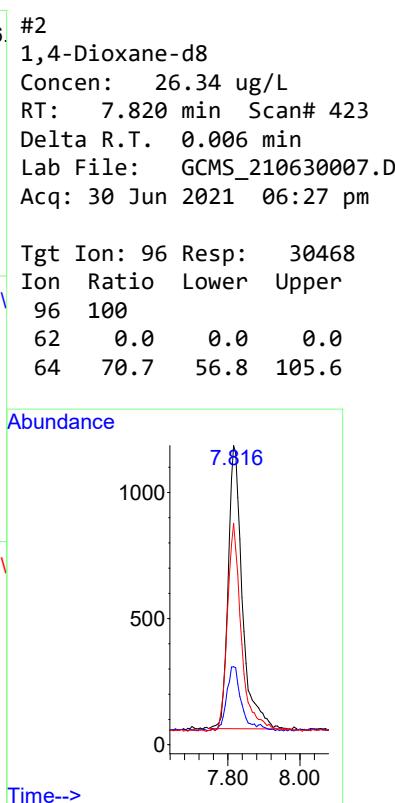
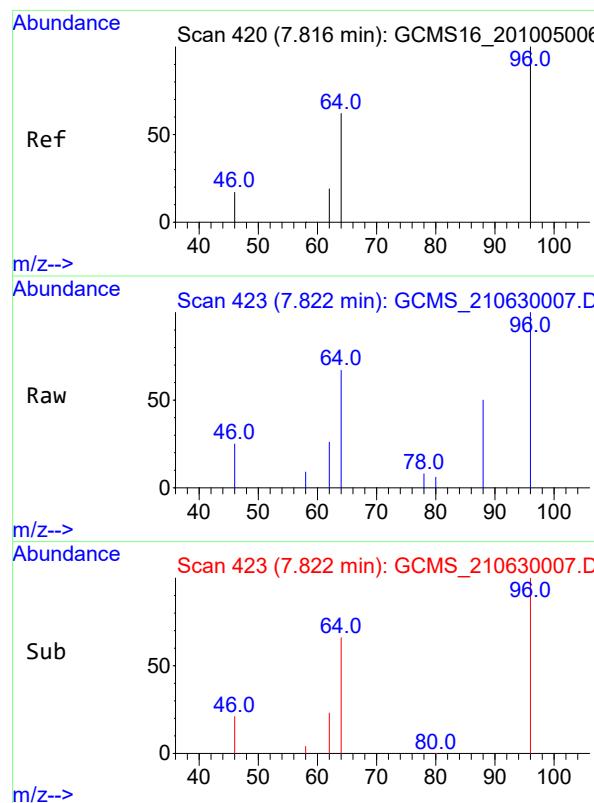
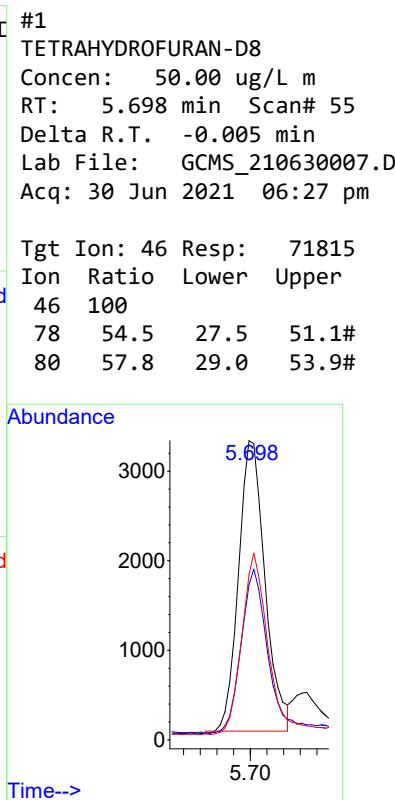
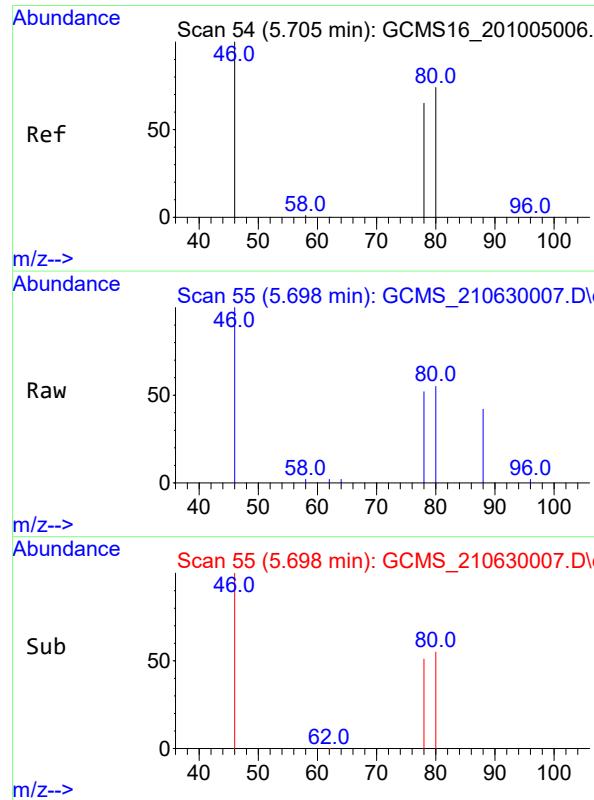
(#) = qualifier out of range (m) = manual integration (+) = signals summed

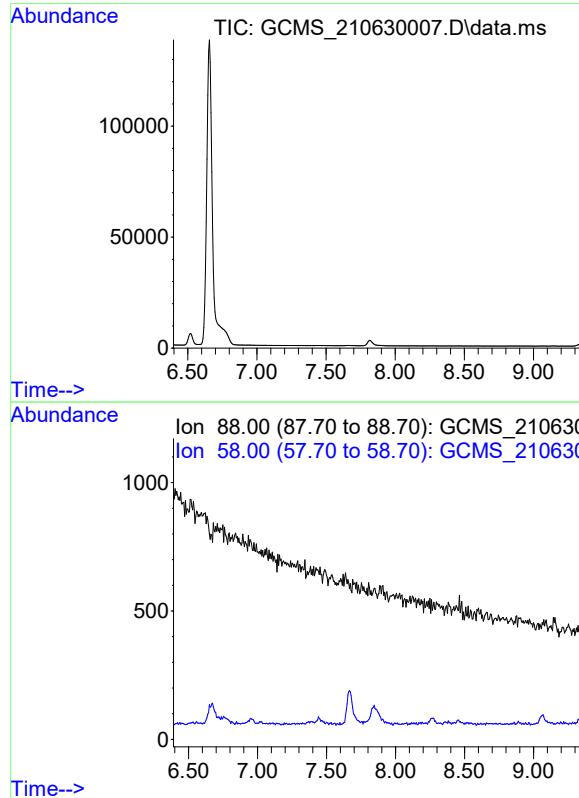
REVIEWED  
By Bruce Gallant at 8:35 am, Aug 17, 2021

Data Path : D:\MassHunter\Data\210630Amak\  
Data File : GCMS\_210630007.D  
Acq On : 30 Jun 2021 06:27 pm  
Operator :  
Sample : E21F007-BLK1  
Misc :  
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 01 11:30:04 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration







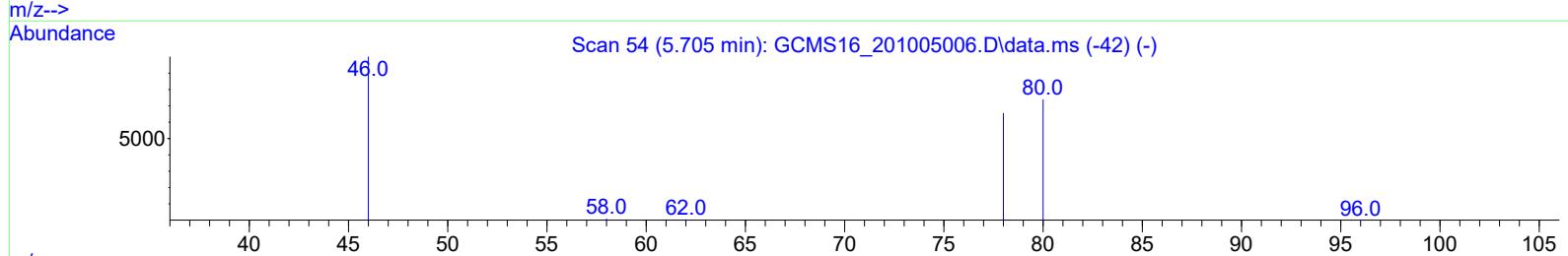
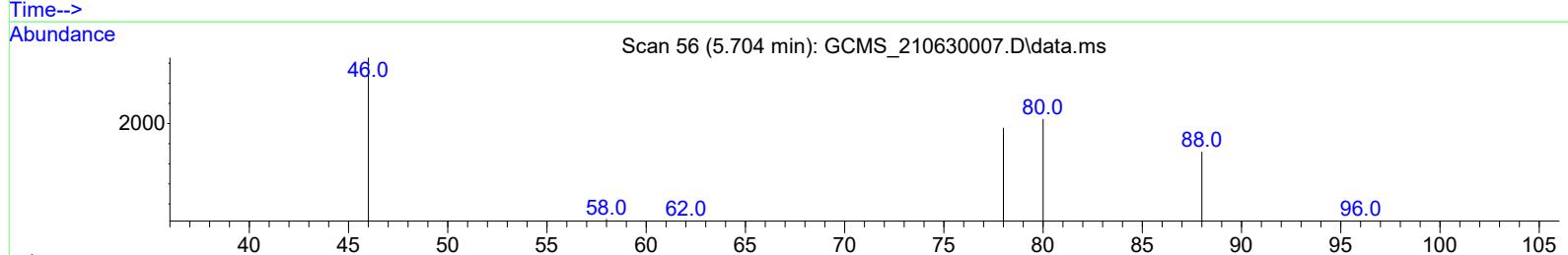
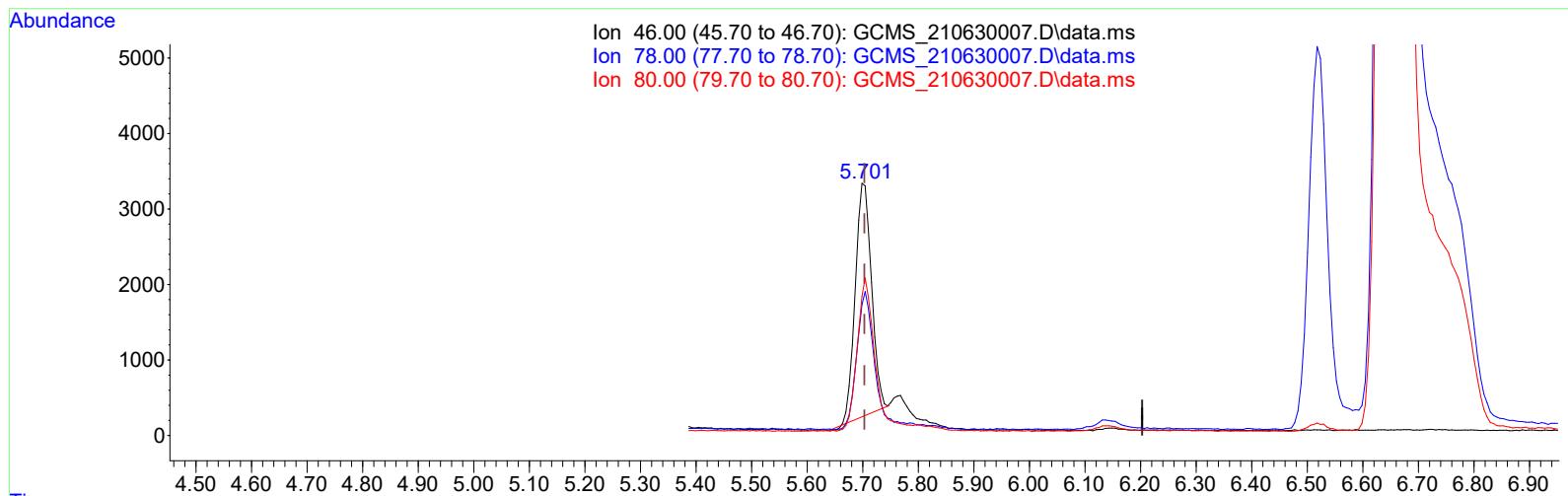
#3  
1,4-Dioxane  
Concen: N.D.  
Expected RT: 7.89 min

Lab File: GCMS\_210630007.D  
Acq: 30 Jun 2021 06:27 pm

Tgt Ion: 88  
Sig Exp Ratio  
88 100  
58 103.6

Data Path : D:\MassHunter\Data\210630Amak\  
 Data File : GCMS\_210630007.D  
 Acq On : 30 Jun 2021 06:27 pm  
 Operator :  
 Sample : E21F007-BLK1  
 Misc :  
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 11 09:01:40 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210630007.D\data.ms

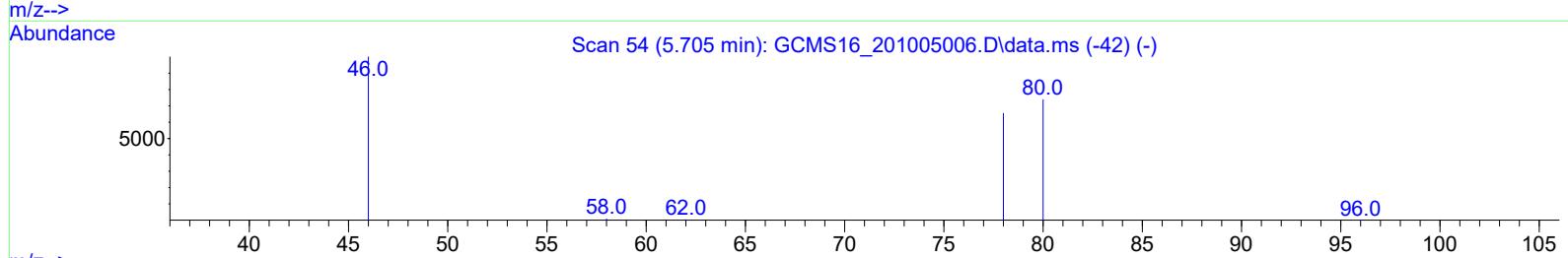
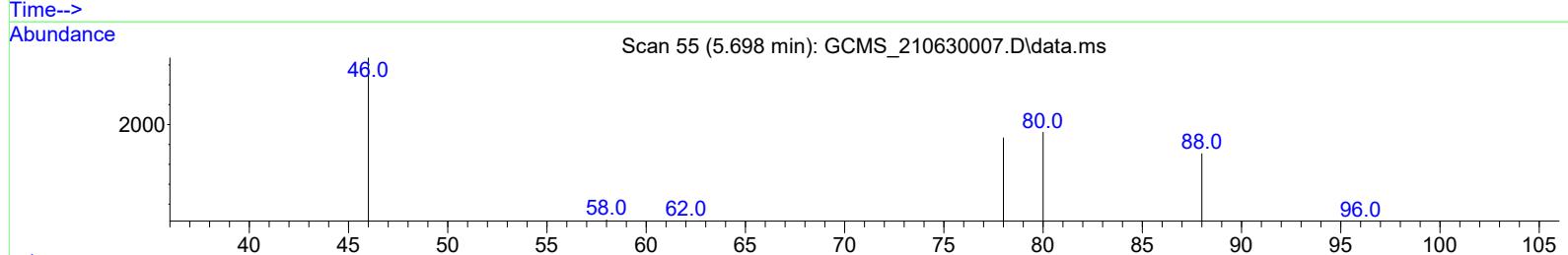
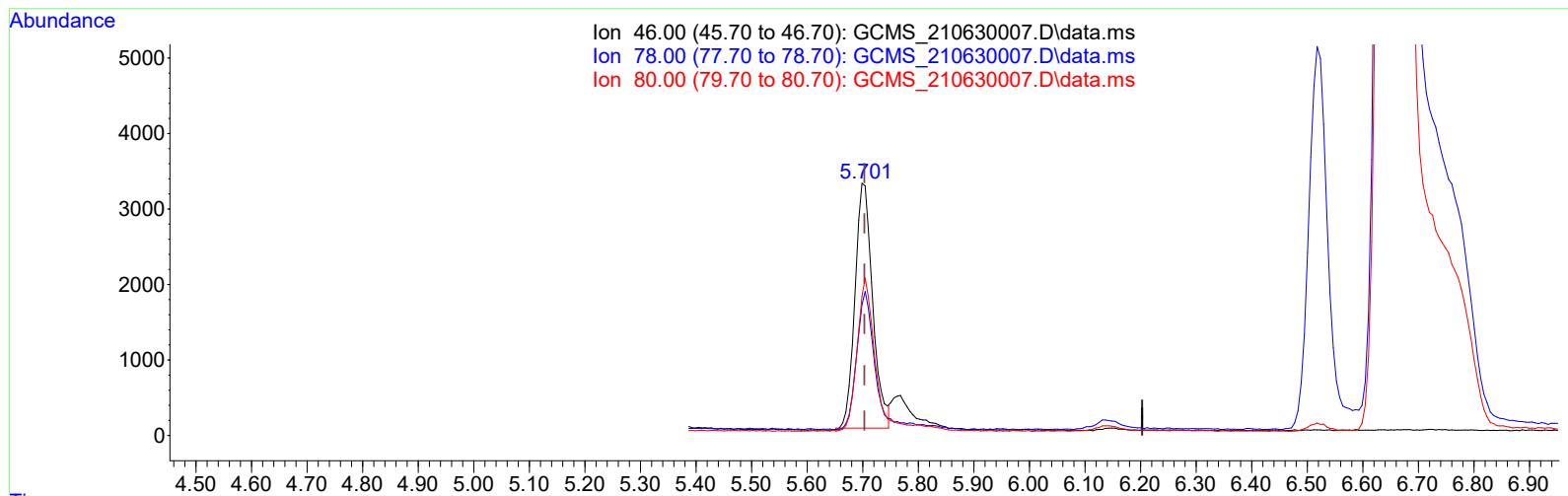
(1) TETRAHYDROFURAN-D8 (I)  
 5.703min (+ 0.000) 50.00 ug/L

response 62151

Ion	Exp%	Act%
46.00	100.00	100.00
78.00	39.30	62.95#
80.00	41.50	66.75#
0.00	0.00	0.00

Data Path : D:\MassHunter\Data\210630Amak\  
 Data File : GCMS\_210630007.D  
 Acq On : 30 Jun 2021 18:27  
 Operator :  
 Sample : E21F007-BLK1  
 Misc :  
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 01 11:30:04 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210630007.D\data.ms

(1) TETRAHYDROFURAN-D8 (I)  
 5.698min (-0.005) 50.00 ug/L m  
 response 71815

Ion	Exp%	Act%
46.00	100.00	100.00
78.00	39.30	54.48#
80.00	41.50	57.77#
0.00	0.00	0.00

REVIEWED  
 By Bruce Gallant at 8:36 am, Aug 17, 2021

Data Path : D:\MassHunter\Data\210630Amak\  
Data File : GCMS\_210630008.D  
Acq On : 30 Jun 2021 06:48 pm  
Operator :  
Sample : E21F007-MRL1  
Misc :  
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 01 11:30:11 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration

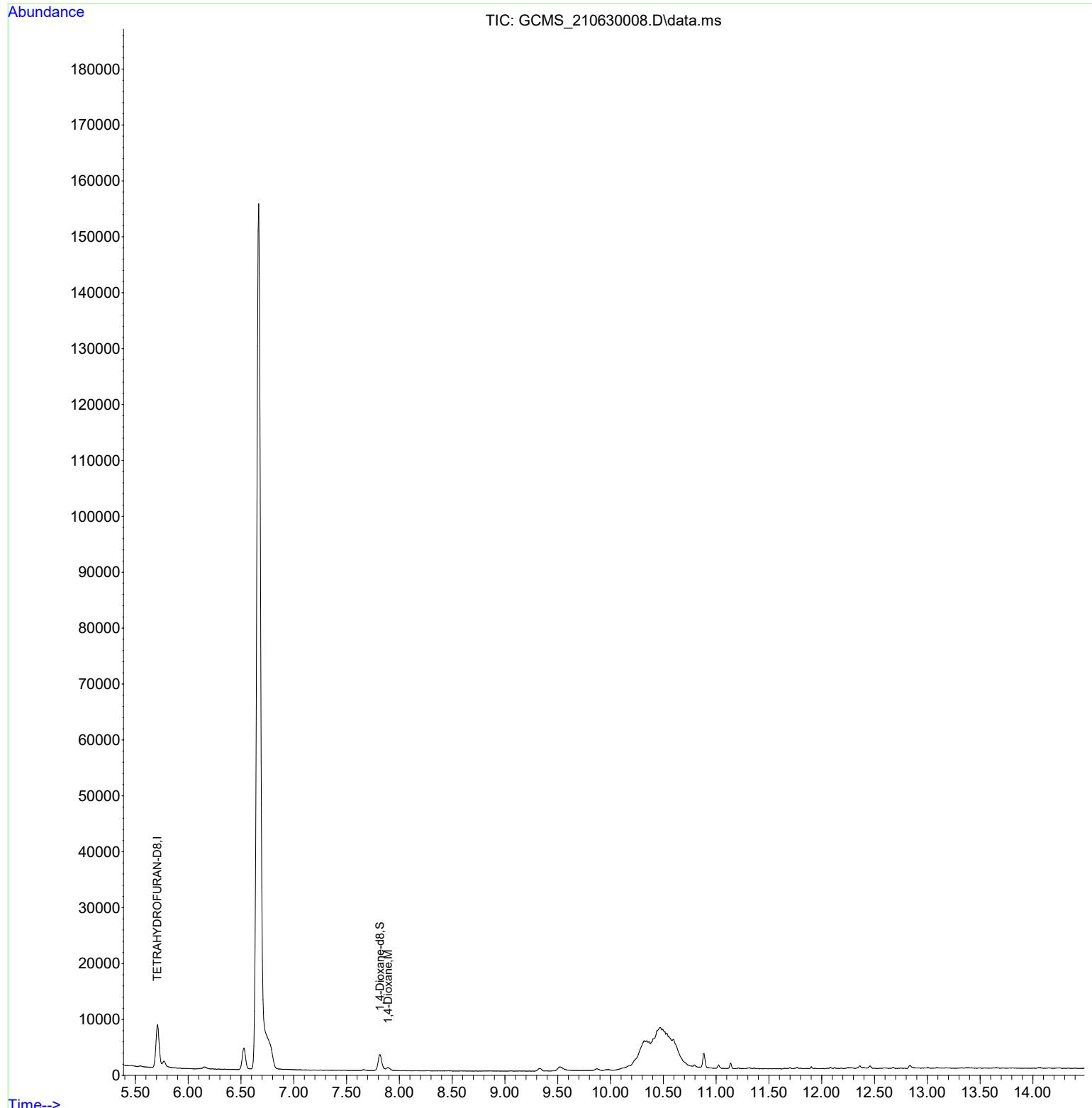
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	5.710	46	82488	50.00	ug/L	# 0.00
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	7.819	96	32610	24.54	ug/L	0.00
<hr/>						
Target Compounds				Qvalue		
3) 1,4-Dioxane	7.891	88	6621m	4.73	ug/L	
<hr/>						

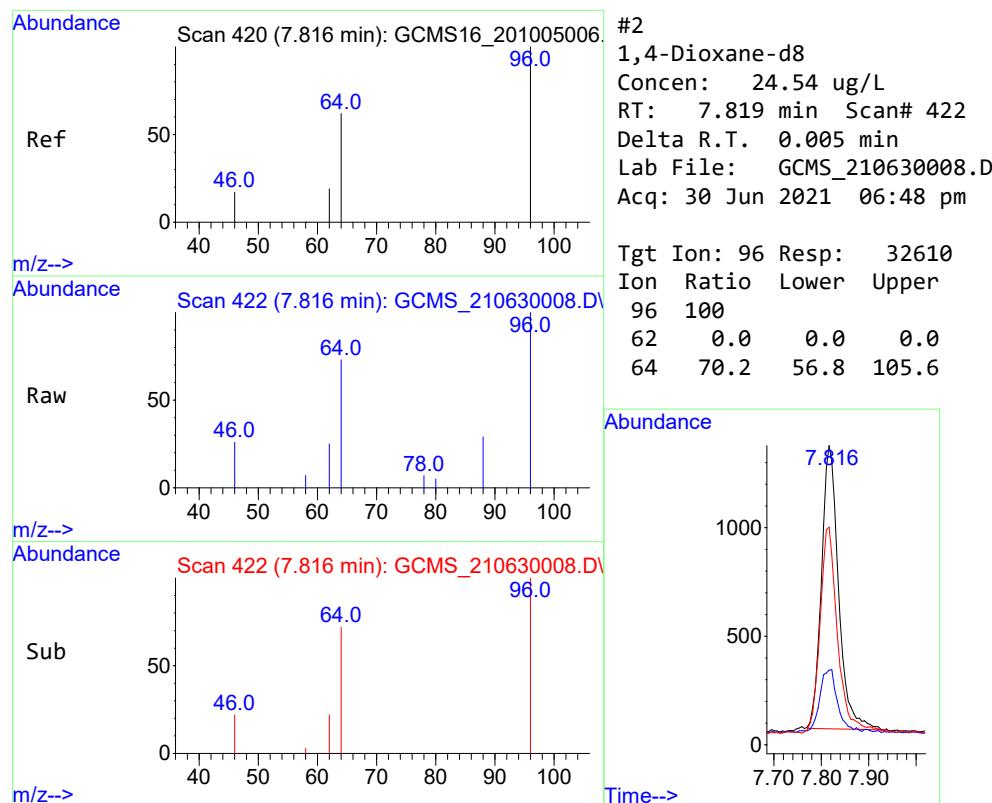
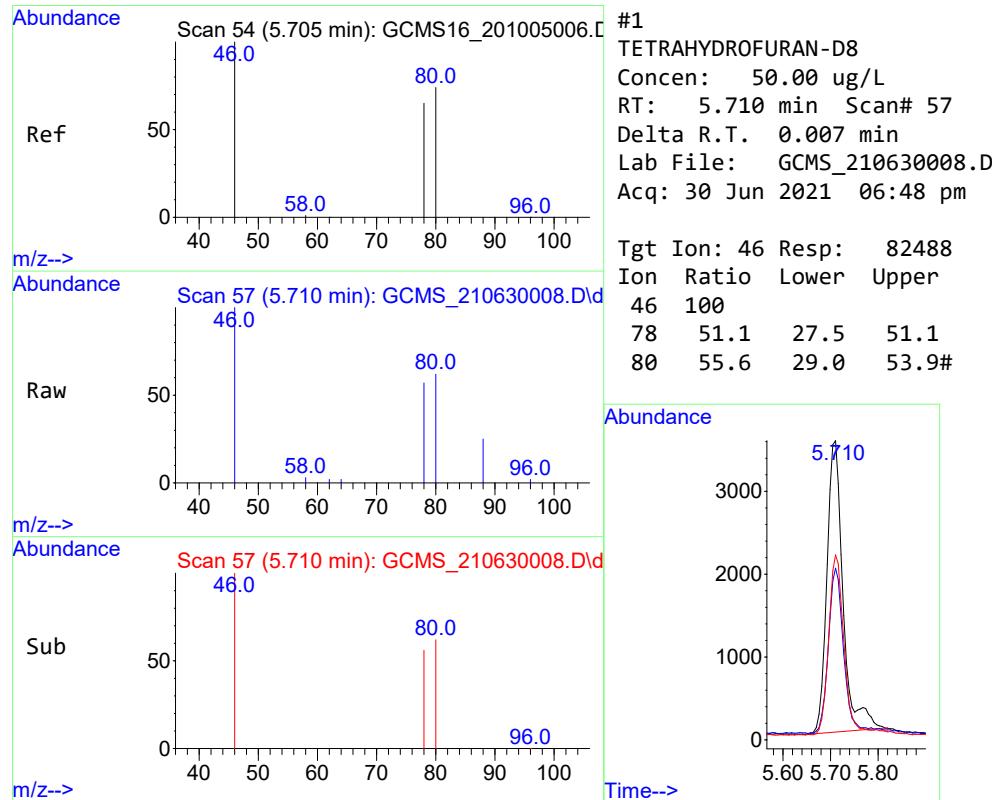
(#) = qualifier out of range (m) = manual integration (+) = signals summed

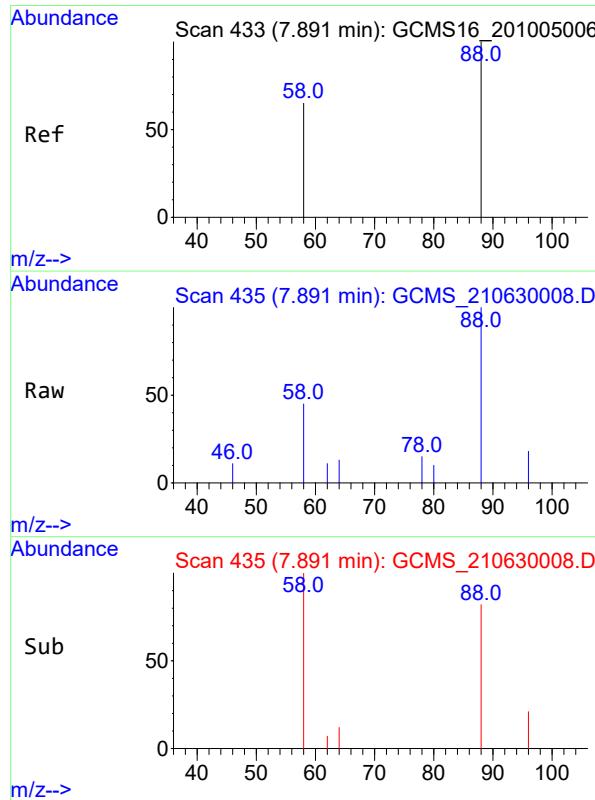
REVIEWED  
By Bruce Gallant at 8:37 am, Aug 17, 2021

Data Path : D:\MassHunter\Data\210630Amak\  
Data File : GCMS\_210630008.D  
Acq On : 30 Jun 2021 06:48 pm  
Operator :  
Sample : E21F007-MRL1  
Misc :  
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 01 11:30:11 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration

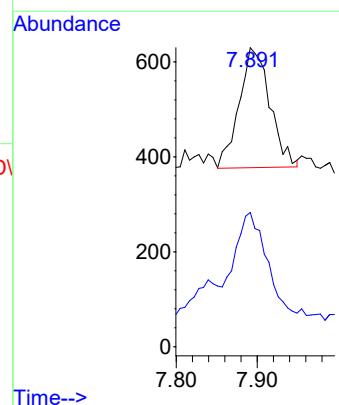






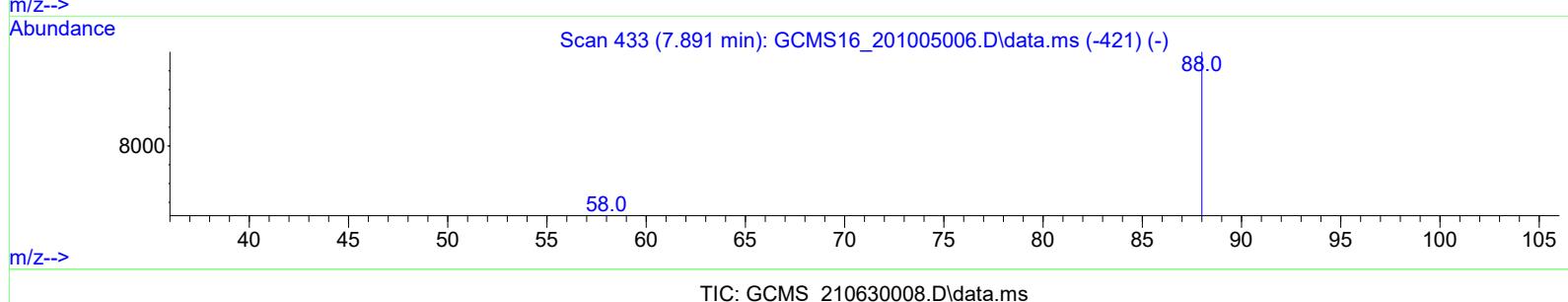
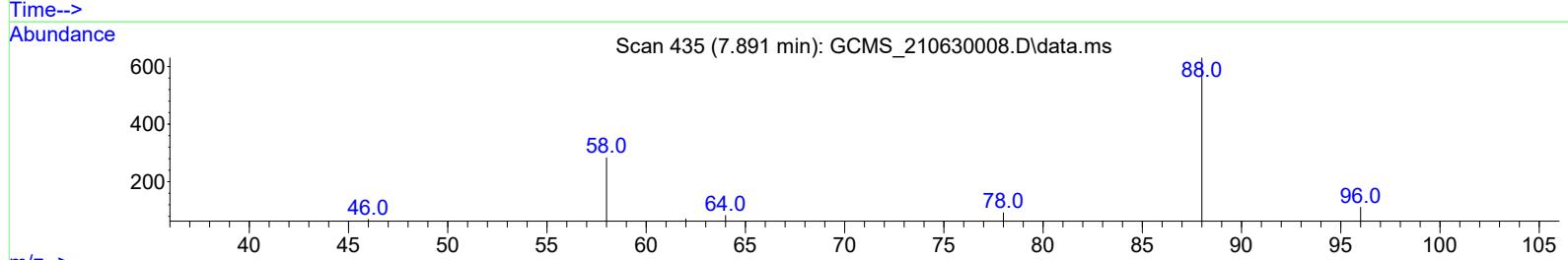
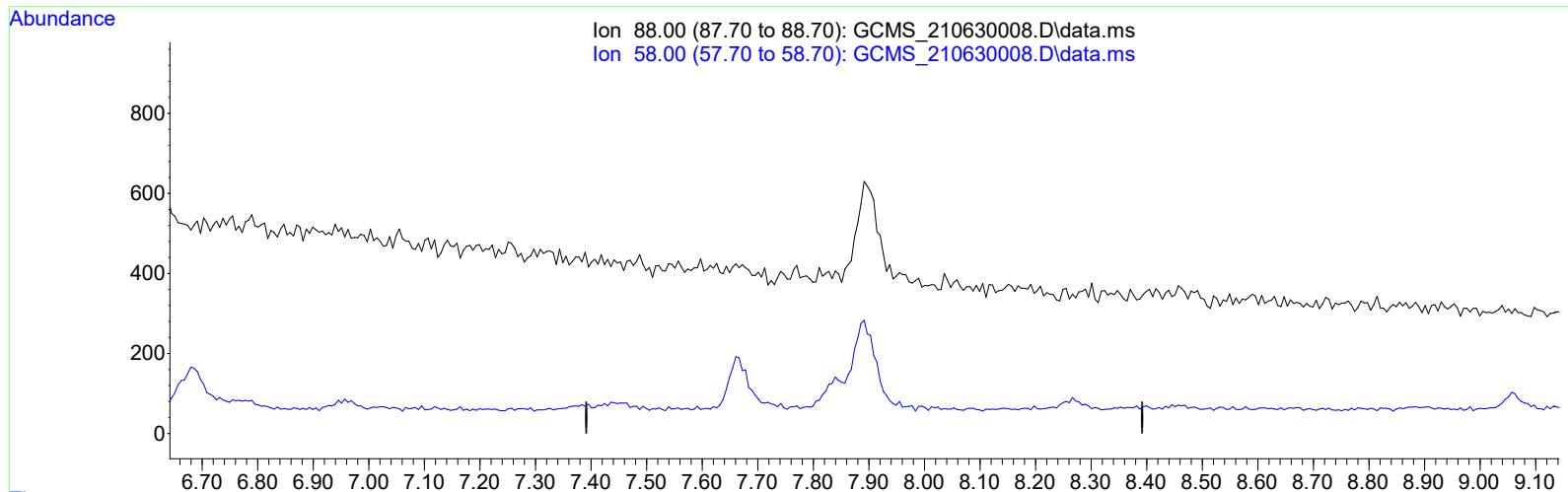
#3  
 1,4-Dioxane  
 Concen: 4.73 ug/L m  
 RT: 7.891 min Scan# 435  
 Delta R.T. -0.001 min  
 Lab File: GCMS\_210630008.D  
 Acq: 30 Jun 2021 06:48 pm

Tgt Ion: 88 Resp: 6621  
 Ion Ratio Lower Upper  
 88 100  
 58 0.0 72.5 134.7#



Data Path : D:\MassHunter\Data\210630Amak\  
 Data File : GCMS\_210630008.D  
 Acq On : 30 Jun 2021 06:48 pm  
 Operator :  
 Sample : E21F007-MRL1  
 Misc :  
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 11 09:01:58 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



## (3) 1,4-Dioxane (M)

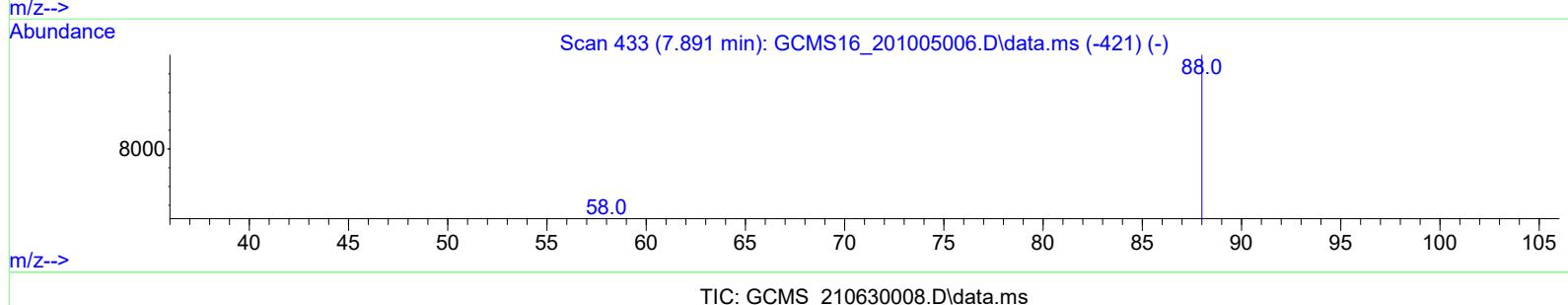
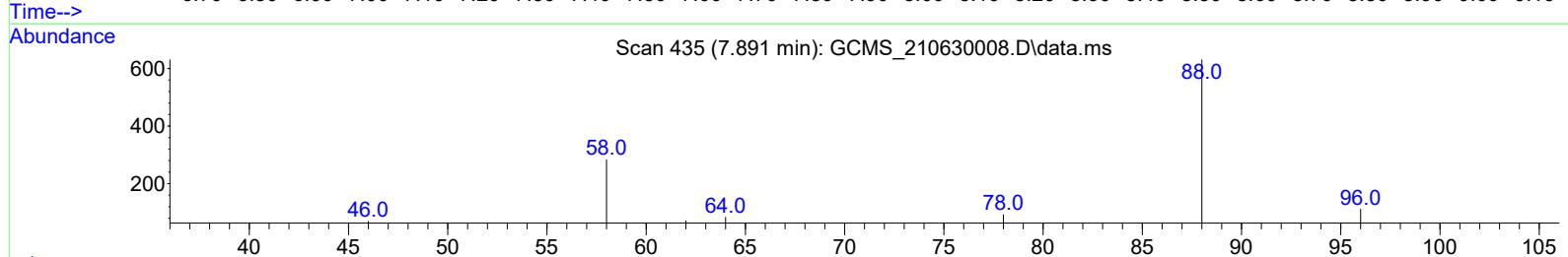
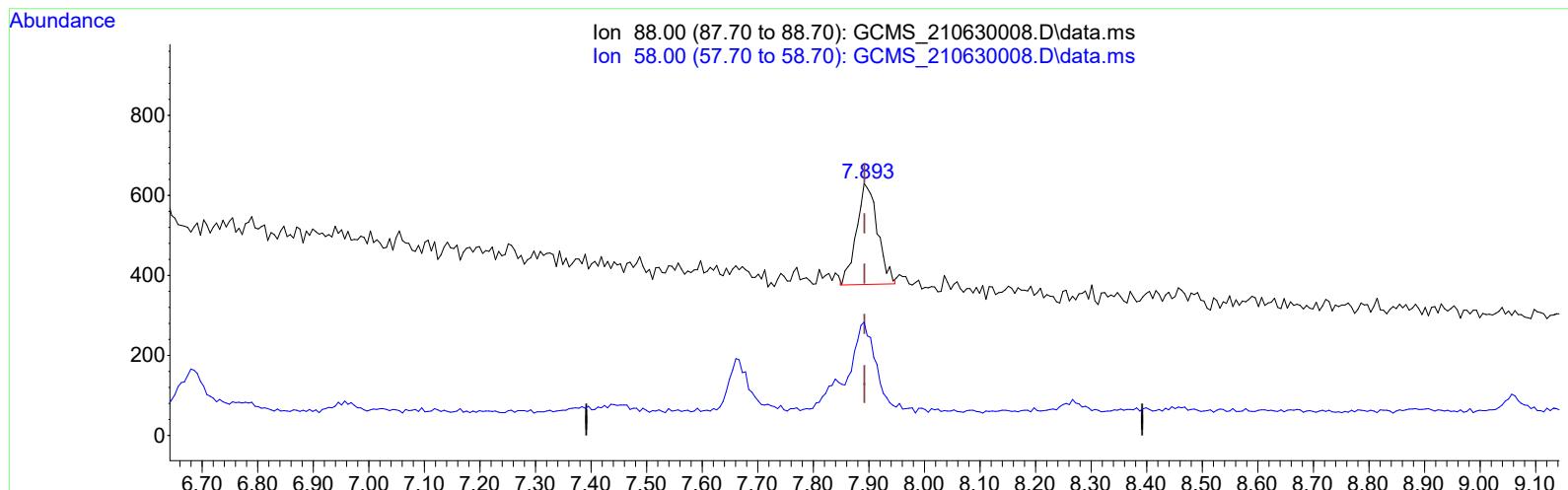
7.892min (-7.892) 0.00 ug/L

response 0

Ion	Exp%	Act%
88.00	100.00	0.00
58.00	103.60	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : D:\MassHunter\Data\210630Amak\  
 Data File : GCMS\_210630008.D  
 Acq On : 30 Jun 2021 06:48 pm  
 Operator :  
 Sample : E21F007-MRL1  
 Misc :  
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 01 11:30:11 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



(3) 1,4-Dioxane (M)

7.891min (-0.001) 4.73 ug/L m

response 6621

Ion	Exp%	Act%
88.00	100.00	100.00
58.00	103.60	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

REVIEWED  
 By Bruce Gallant at 8:37 am, Aug 17, 2021

Data Path : D:\MassHunter\Data\210630Amak\  
Data File : GCMS\_210630009.D  
Acq On : 30 Jun 2021 07:09 pm  
Operator :  
Sample : E21F007-BS1  
Misc :  
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 01 11:30:27 2021

Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M

Quant Title : Initial Calibration of 1,4-Dioxane 021317

QLast Update : Thu Jun 24 15:10:43 2021

Response via : Initial Calibration

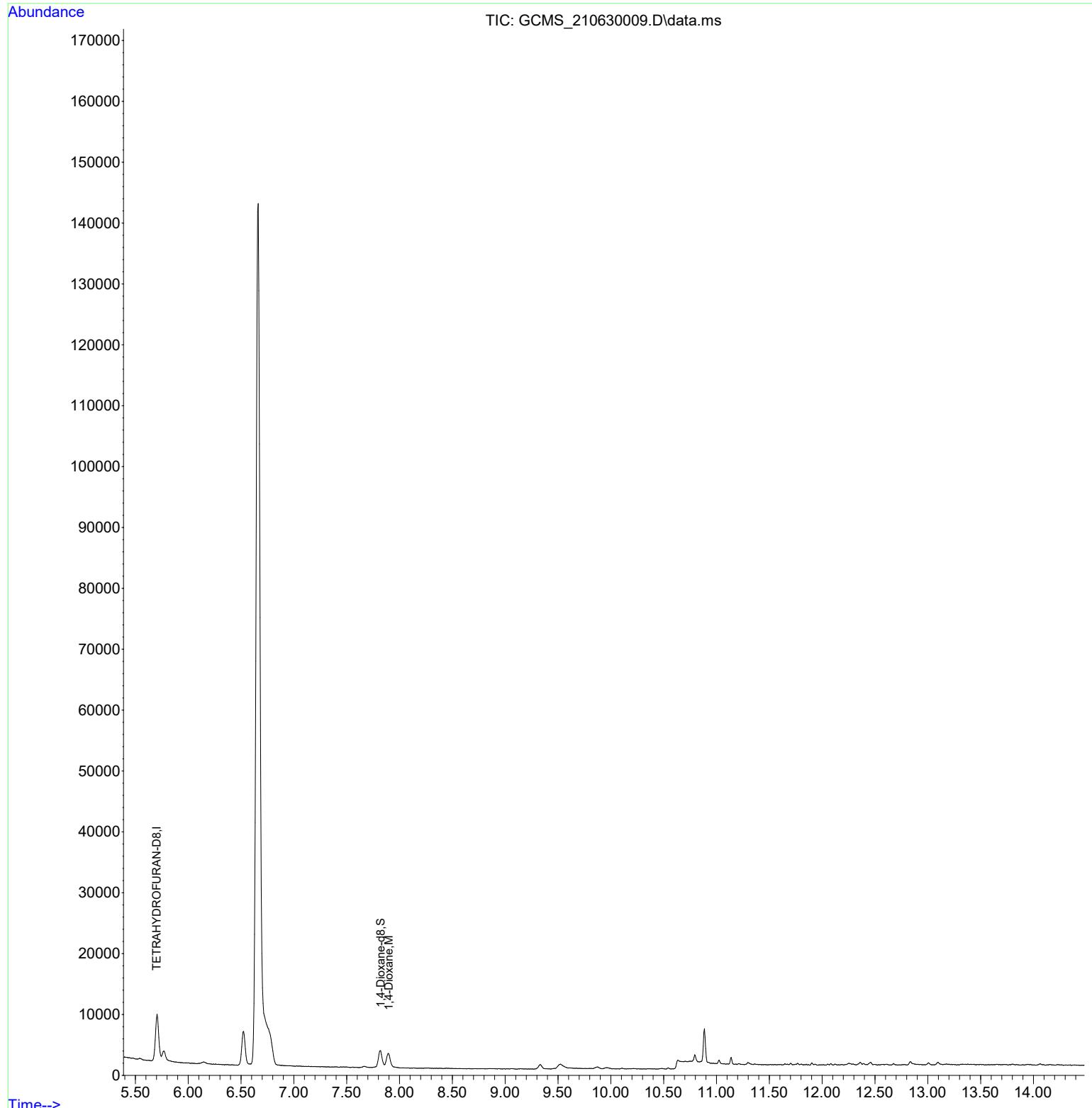
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	5.705	46	77796m	50.00	ug/L	0.00
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	7.821	96	35221	28.11	ug/L	0.00
<hr/>						
Target Compounds				Qvalue		
3) 1,4-Dioxane	7.898	88	33865	25.67	ug/L	83
<hr/>						

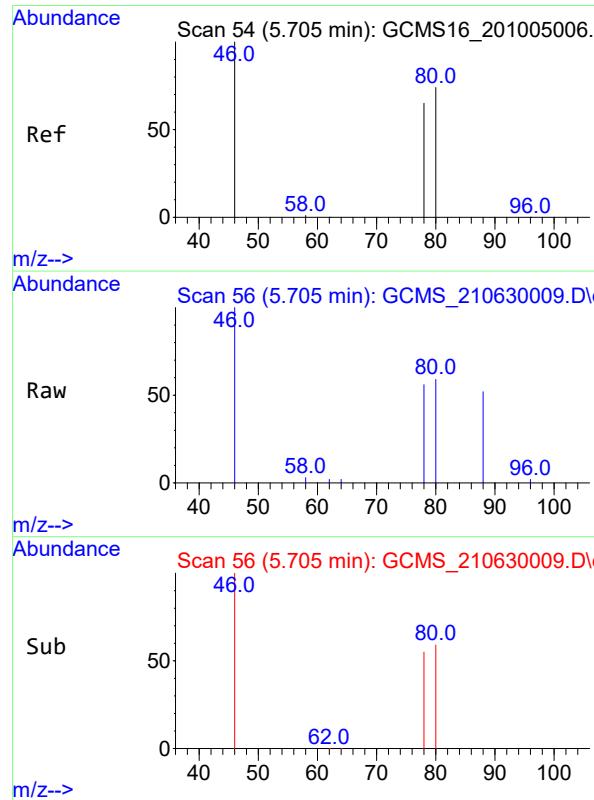
(#) = qualifier out of range (m) = manual integration (+) = signals summed

REVIEWED  
By Bruce Gallant at 8:37 am, Aug 17, 2021

Data Path : D:\MassHunter\Data\210630Amak\  
Data File : GCMS\_210630009.D  
Acq On : 30 Jun 2021 07:09 pm  
Operator :  
Sample : E21F007-BS1  
Misc :  
ALS Vial : 7 Sample Multiplier: 1

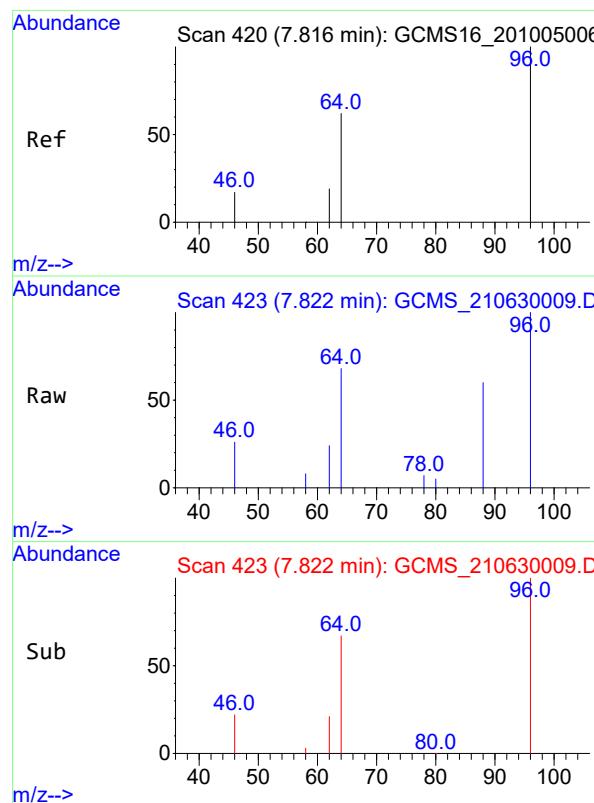
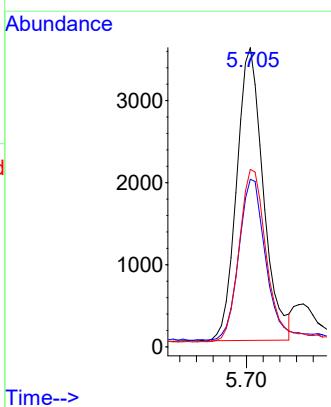
Quant Time: Jul 01 11:30:27 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration





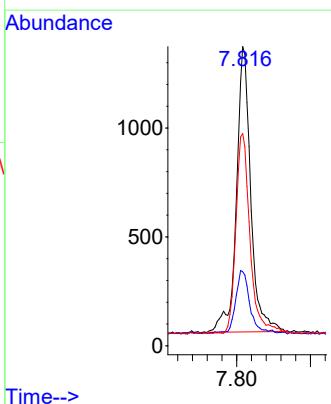
#1  
**TETRAHYDROFURAN-D8**  
Concen: 50.00 ug/L m  
RT: 5.705 min Scan# 56  
Delta R.T. 0.002 min  
Lab File: GCMS\_210630009.D  
Acq: 30 Jun 2021 07:09 pm

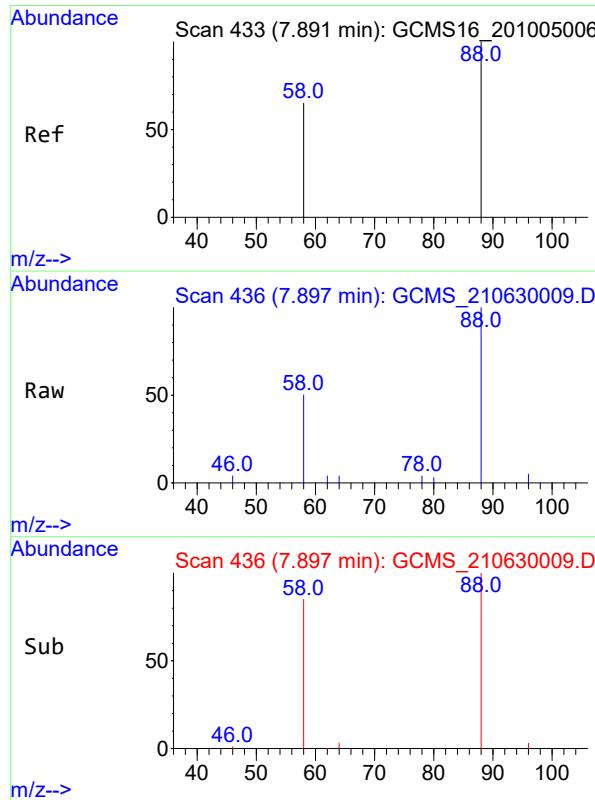
Tgt Ion: 46 Resp: 77796  
Ion Ratio Lower Upper  
46 100  
78 54.7 27.5 51.1#  
80 59.3 29.0 53.9#



#2  
**1,4-Dioxane-d8**  
Concen: 28.11 ug/L  
RT: 7.821 min Scan# 423  
Delta R.T. 0.007 min  
Lab File: GCMS\_210630009.D  
Acq: 30 Jun 2021 07:09 pm

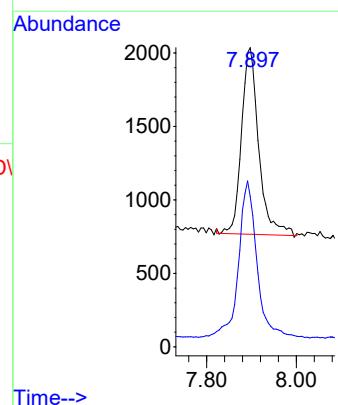
Tgt Ion: 96 Resp: 35221  
Ion Ratio Lower Upper  
96 100  
62 0.0 0.0 0.0  
64 65.7 56.8 105.6





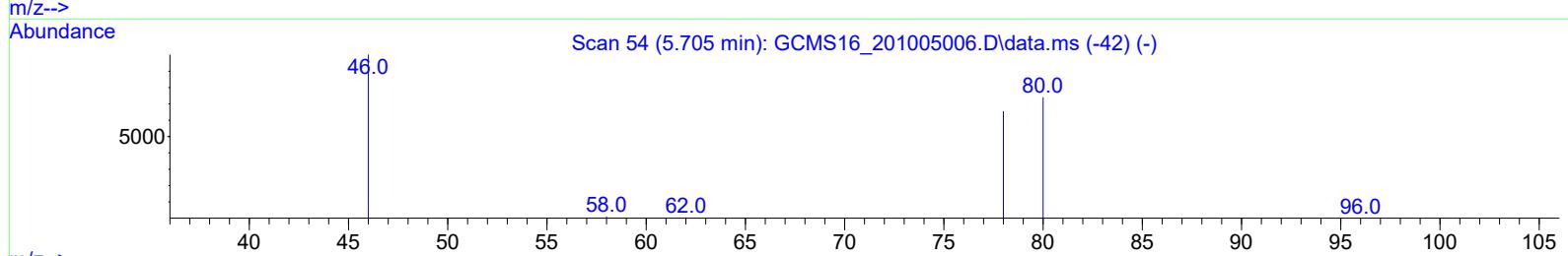
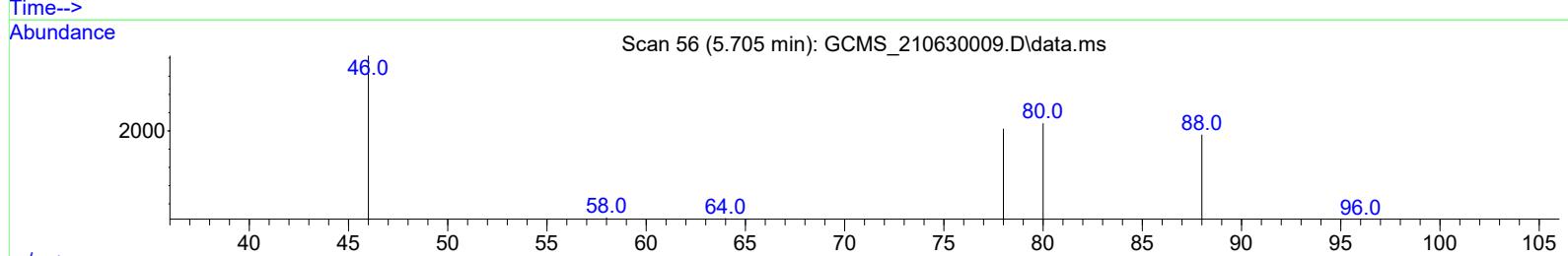
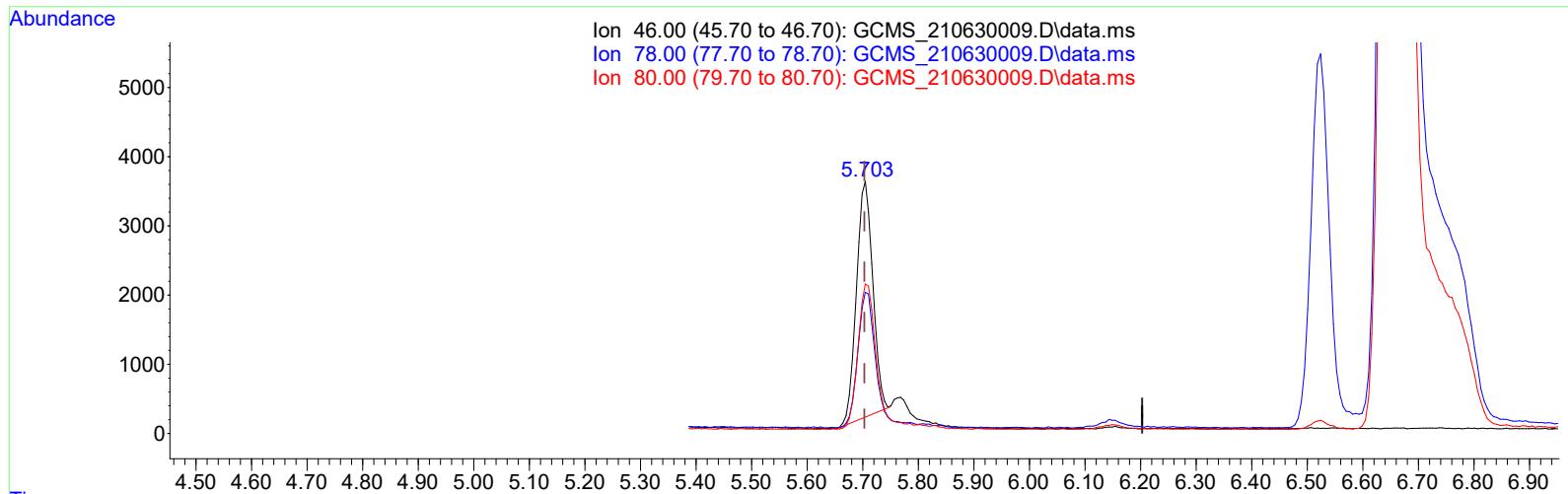
#3  
 1,4-Dioxane  
 Concen: 25.67 ug/L  
 RT: 7.898 min Scan# 436  
 Delta R.T. 0.006 min  
 Lab File: GCMS\_210630009.D  
 Acq: 30 Jun 2021 07:09 pm

Tgt Ion: 88 Resp: 33865  
 Ion Ratio Lower Upper  
 88 100  
 58 85.8 72.5 134.7



Data Path : D:\MassHunter\Data\210630Amak\  
 Data File : GCMS\_210630009.D  
 Acq On : 30 Jun 2021 07:09 pm  
 Operator :  
 Sample : E21F007-BS1  
 Misc :  
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 11 09:02:10 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210630009.D\data.ms

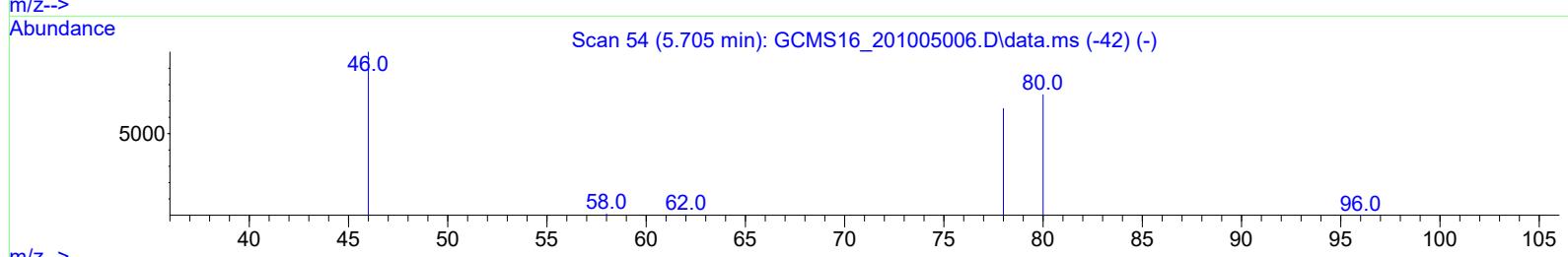
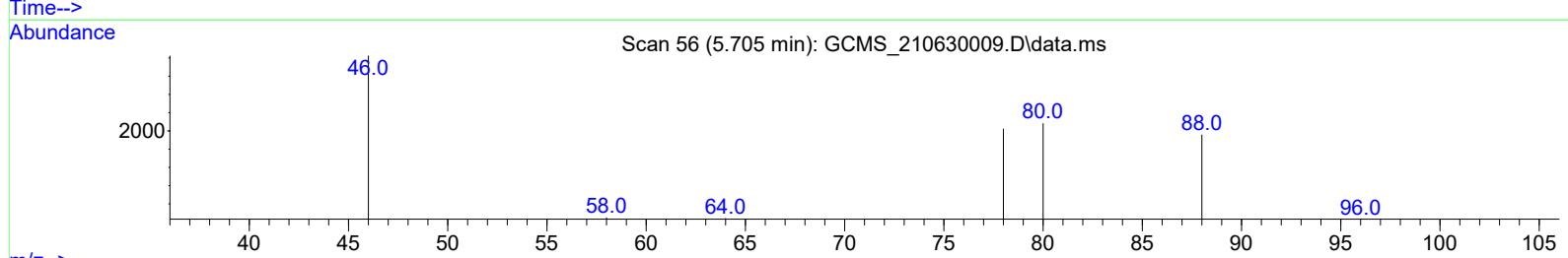
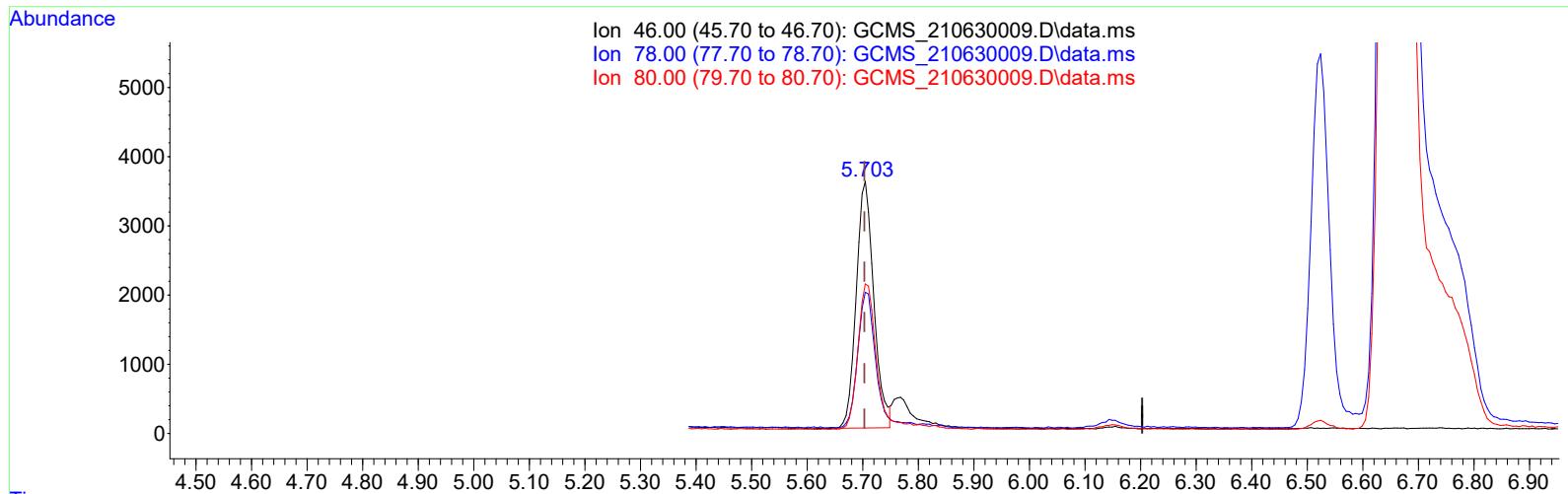
(1) TETRAHYDROFURAN-D8 (I)  
 5.706min (+ 0.003) 50.00 ug/L

response 69245

Ion	Exp%	Act%
46.00	100.00	100.00
78.00	39.30	61.51#
80.00	41.50	66.63#
0.00	0.00	0.00

Data Path : D:\MassHunter\Data\210630Amak\  
 Data File : GCMS\_210630009.D  
 Acq On : 30 Jun 2021 07:09 pm  
 Operator :  
 Sample : E21F007-BS1  
 Misc :  
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 01 11:30:27 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210630009.D\data.ms

## (1) TETRAHYDROFURAN-D8 (I)

5.705min (+ 0.002) 50.00 ug/L m

response 77796

Ion	Exp%	Act%
46.00	100.00	100.00
78.00	39.30	54.75#
80.00	41.50	59.30#
0.00	0.00	0.00

REVIEWED  
 By Bruce Gallant at 8:38 am, Aug 17, 2021

Data Path : D:\MassHunter\Data\210630Amak\  
Data File : GCMS\_210630010.D  
Acq On : 30 Jun 2021 07:31 pm  
Operator :  
Sample : E21F007-BSD1  
Misc :  
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jul 01 11:30:31 2021

Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M

Quant Title : Initial Calibration of 1,4-Dioxane 021317

QLast Update : Thu Jun 24 15:10:43 2021

Response via : Initial Calibration

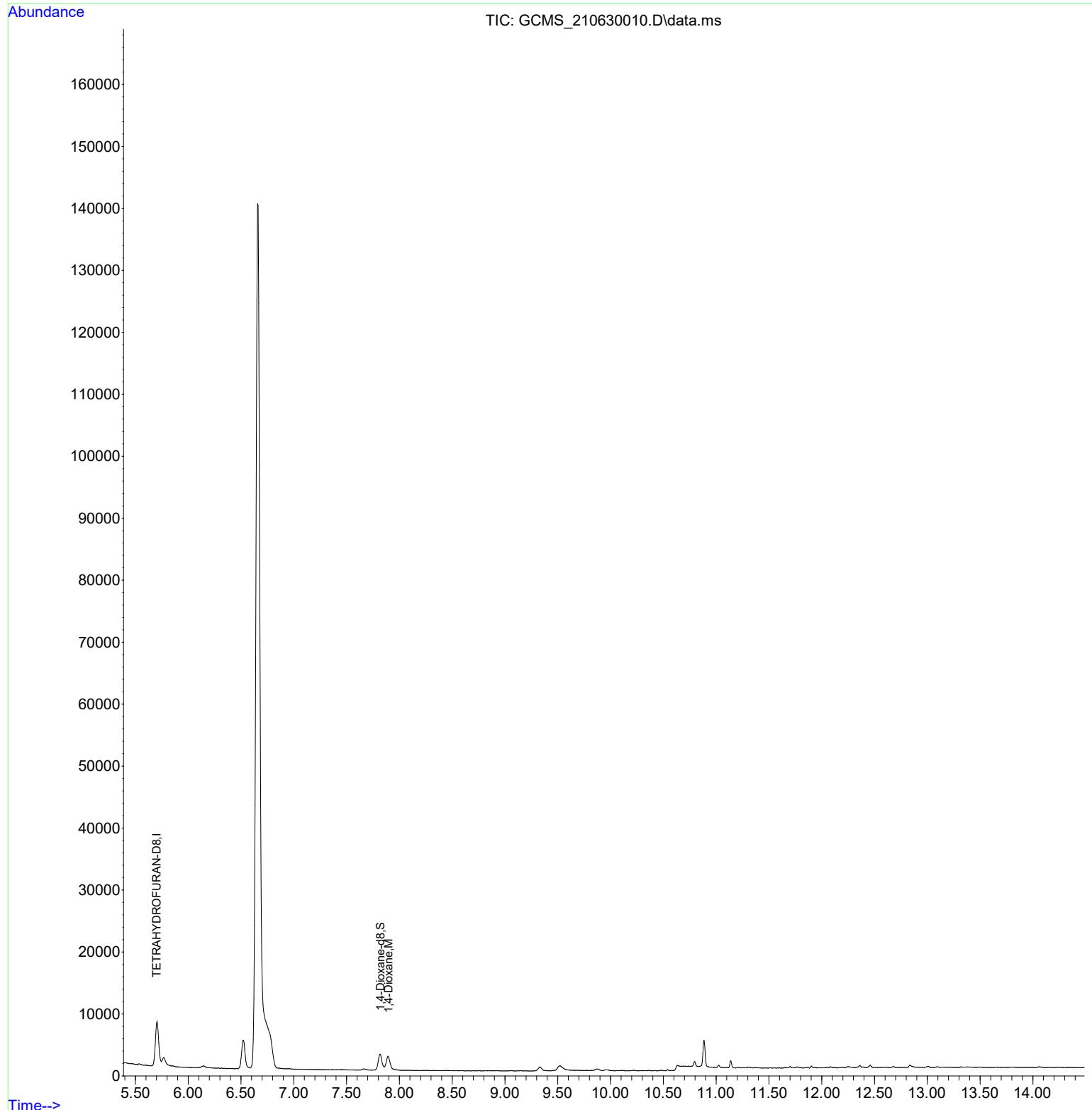
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	5.704	46	74529m	50.00	ug/L	0.00
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	7.820	96	30595	25.49	ug/L	0.00
<hr/>						
Target Compounds				Qvalue		
3) 1,4-Dioxane	7.897	88	30095	23.81	ug/L	91
<hr/>						

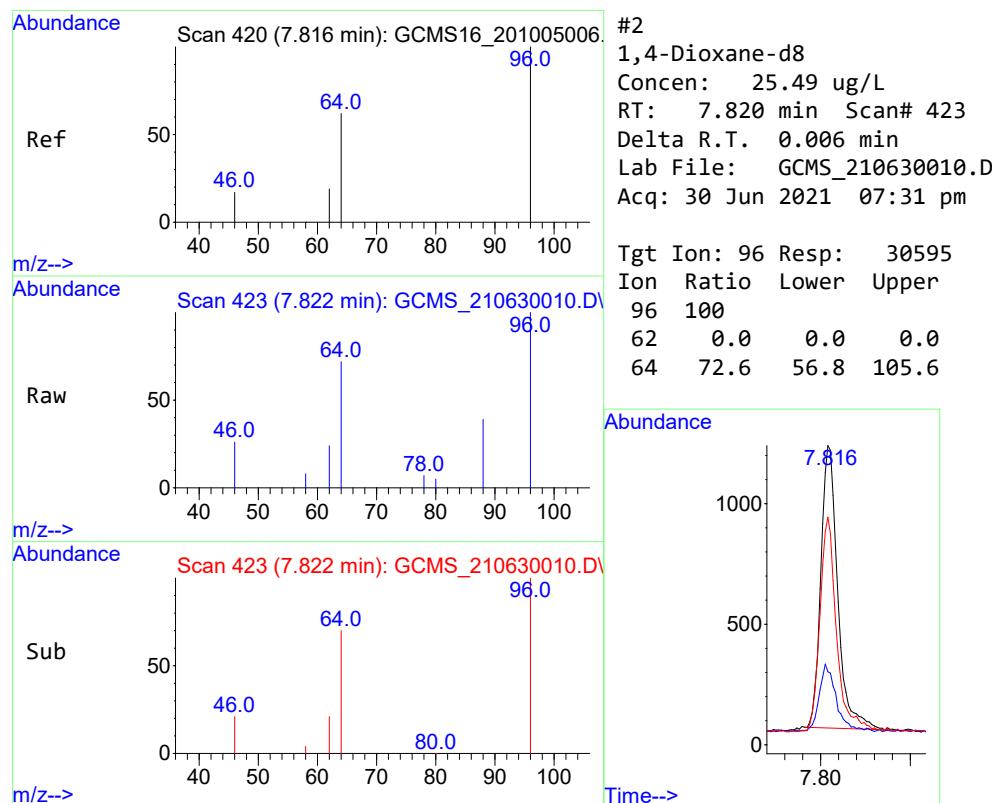
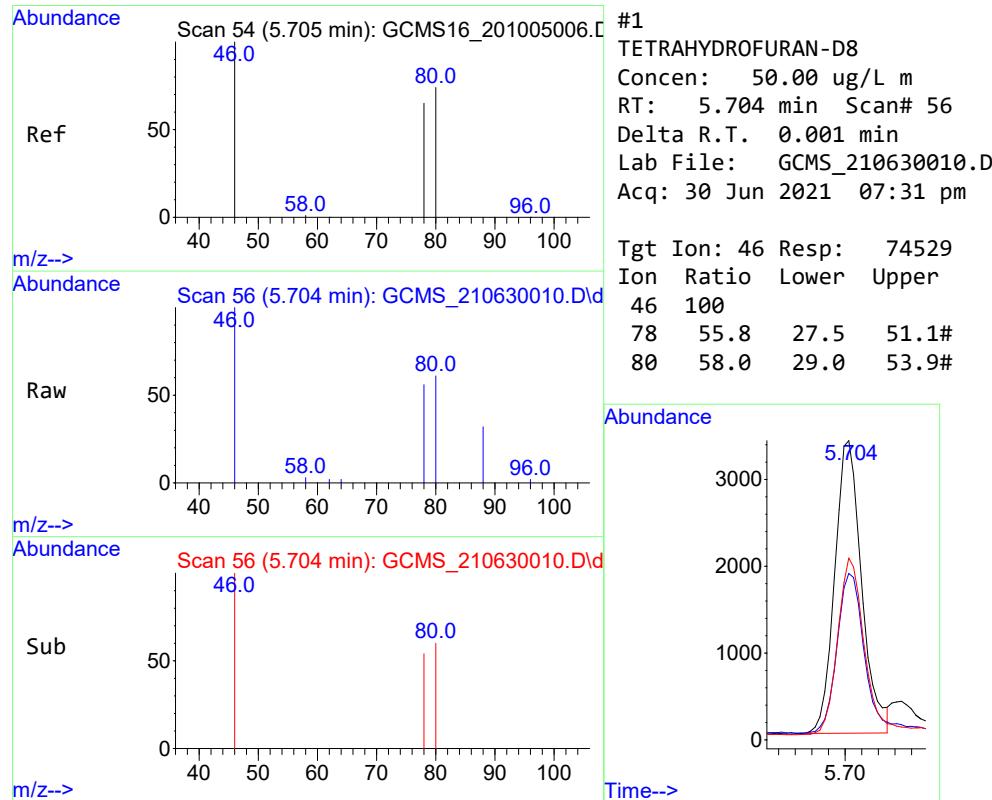
(#) = qualifier out of range (m) = manual integration (+) = signals summed

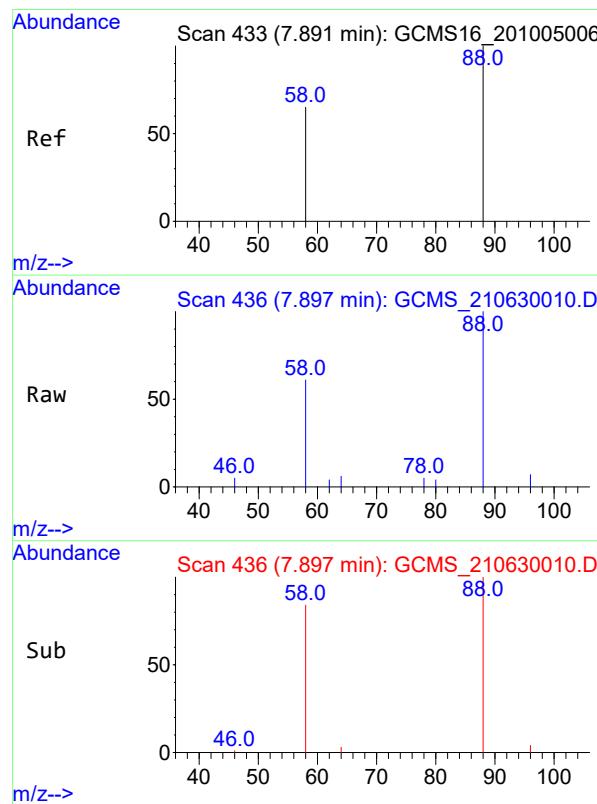
REVIEWED  
By Bruce Gallant at 8:38 am, Aug 17, 2021

Data Path : D:\MassHunter\Data\210630Amak\  
Data File : GCMS\_210630010.D  
Acq On : 30 Jun 2021 07:31 pm  
Operator :  
Sample : E21F007-BSD1  
Misc :  
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jul 01 11:30:31 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration

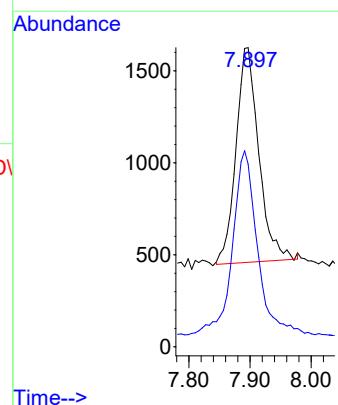






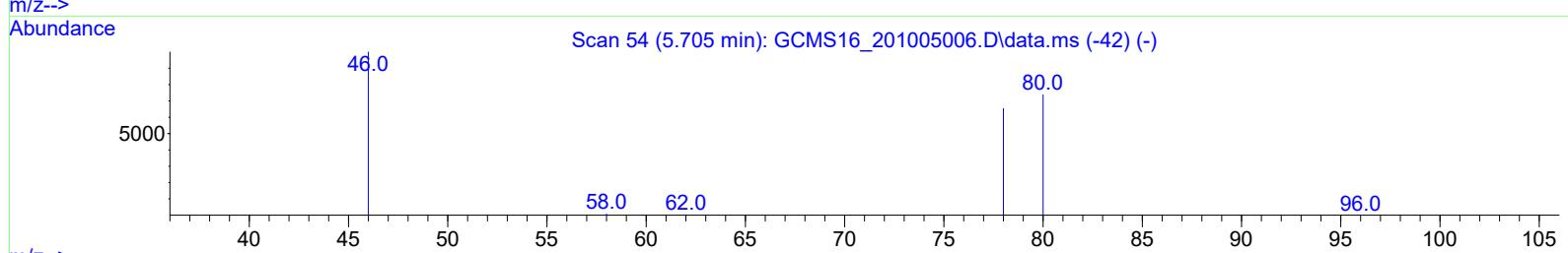
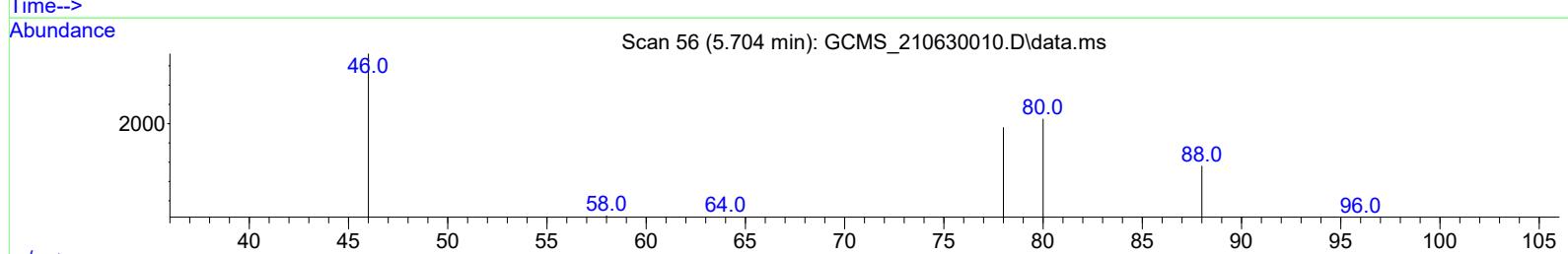
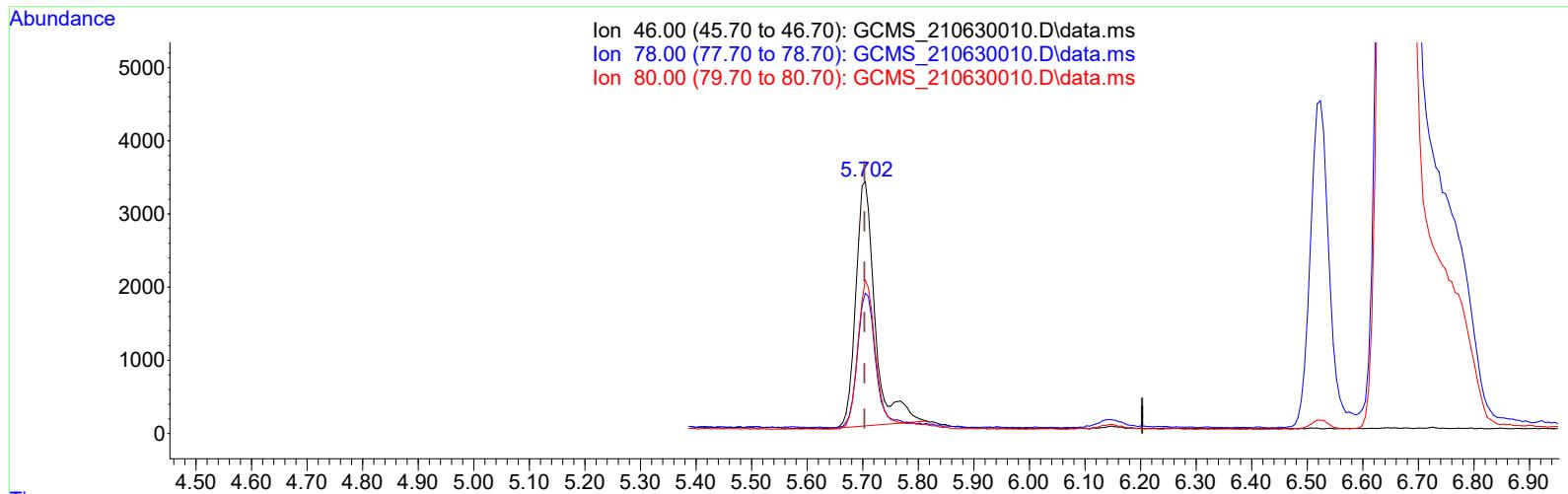
#3  
 1,4-Dioxane  
 Concen: 23.81 ug/L  
 RT: 7.897 min Scan# 436  
 Delta R.T. 0.005 min  
 Lab File: GCMS\_210630010.D  
 Acq: 30 Jun 2021 07:31 pm

Tgt Ion: 88 Resp: 30095  
 Ion Ratio Lower Upper  
 88 100  
 58 94.5 72.5 134.7



Data Path : D:\MassHunter\Data\210630Amak\  
 Data File : GCMS\_210630010.D  
 Acq On : 30 Jun 2021 07:31 pm  
 Operator :  
 Sample : E21F007-BSD1  
 Misc :  
 ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 11 09:02:20 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



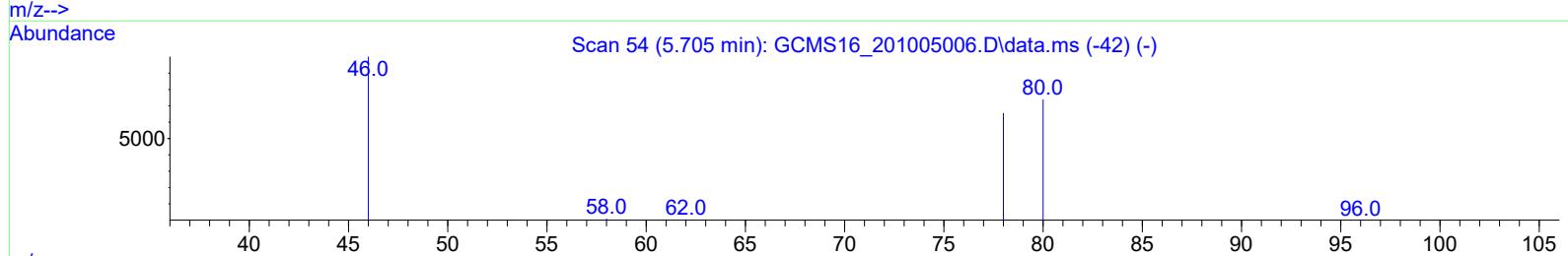
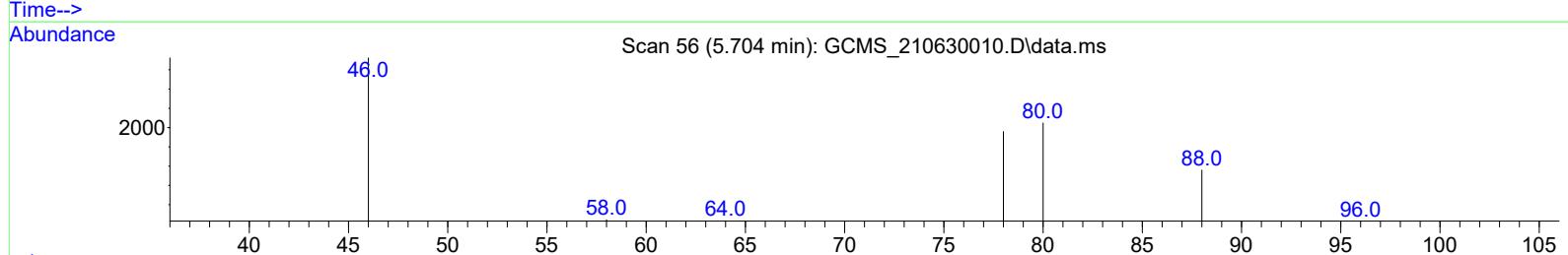
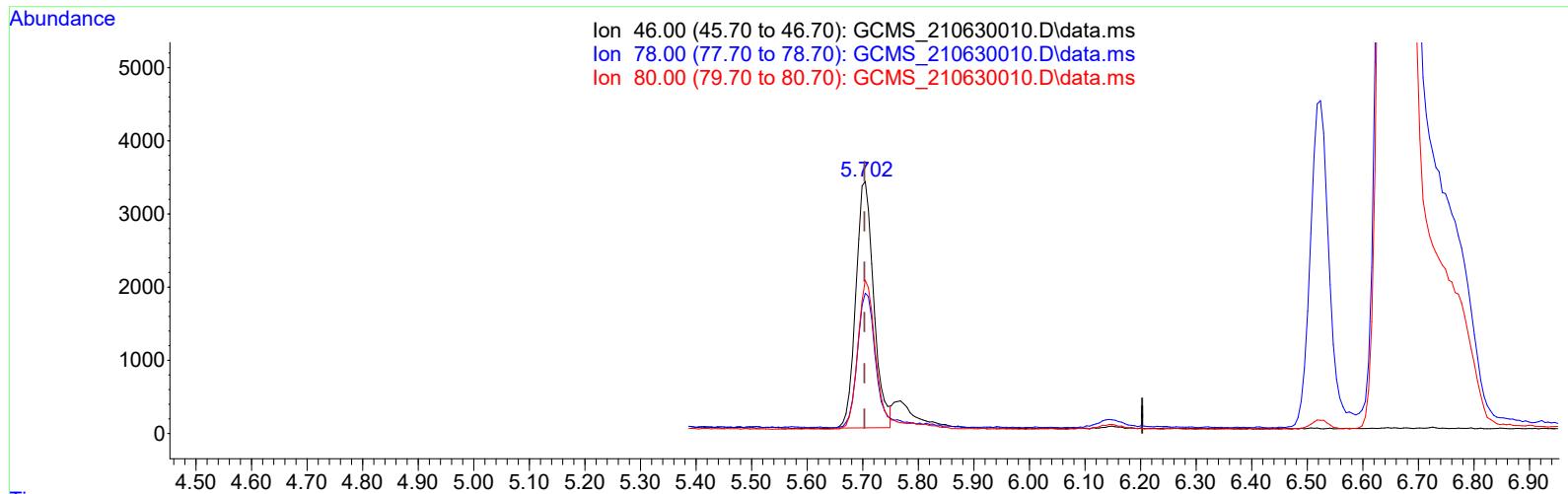
TIC: GCMS\_210630010.D\data.ms

(1) TETRAHYDROFURAN-D8 (I)  
 5.705min (+ 0.002) 50.00 ug/L  
 response 79901

Ion	Exp%	Act%
46.00	100.00	100.00
78.00	39.30	52.05#
80.00	41.50	54.12#
0.00	0.00	0.00

Data Path : D:\MassHunter\Data\210630Amak\  
 Data File : GCMS\_210630010.D  
 Acq On : 30 Jun 2021 07:31 pm  
 Operator :  
 Sample : E21F007-BSD1  
 Misc :  
 ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jul 01 11:30:31 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210630010.D\data.ms

## (1) TETRAHYDROFURAN-D8 (I)

5.704min (+ 0.001) 50.00 ug/L m

response 74529

Ion	Exp%	Act%
46.00	100.00	100.00
78.00	39.30	55.80#
80.00	41.50	58.03#
0.00	0.00	0.00

REVIEWED

By Bruce Gallant at 8:39 am, Aug 17, 2021

Data Path : D:\MassHunter\Data\210707mak\  
Data File : GCMS\_210707014.D  
Acq On : 07 Jul 2021 16:18  
Operator :  
Sample : E21G004-BLK1  
Misc :  
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 08 09:11:27 2021

Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M

Quant Title : Initial Calibration of 1,4-Dioxane 021317

QLast Update : Thu Jun 24 15:10:43 2021

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	5.682	46	39141m	50.00	ug/L	-0.02
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	7.817	96	16810	26.66	ug/L	0.00
<hr/>						
Target Compounds				Qvalue		
3) 1,4-Dioxane	0.000		0	N.D.		
<hr/>						

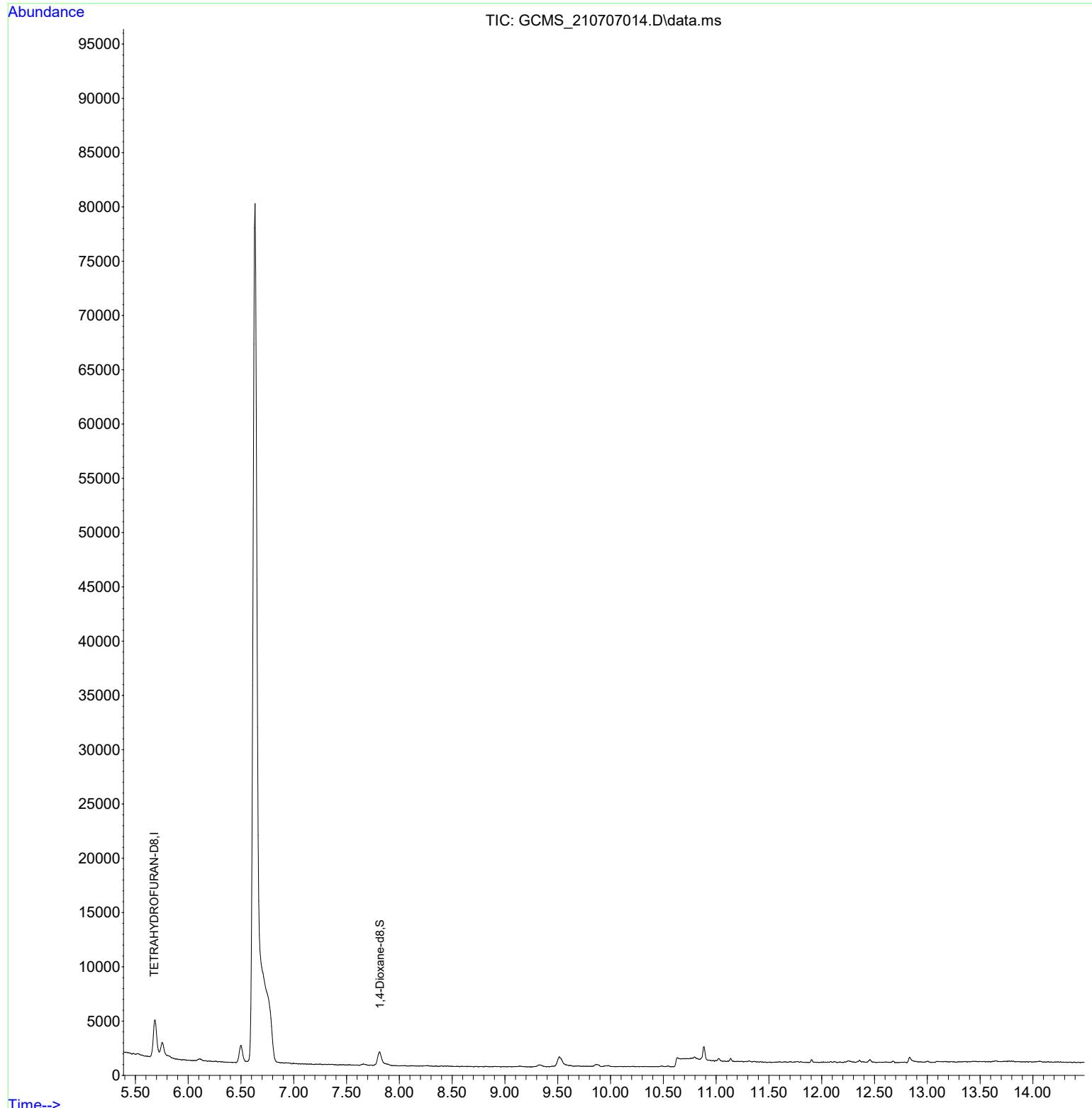
(#) = qualifier out of range (m) = manual integration (+) = signals summed

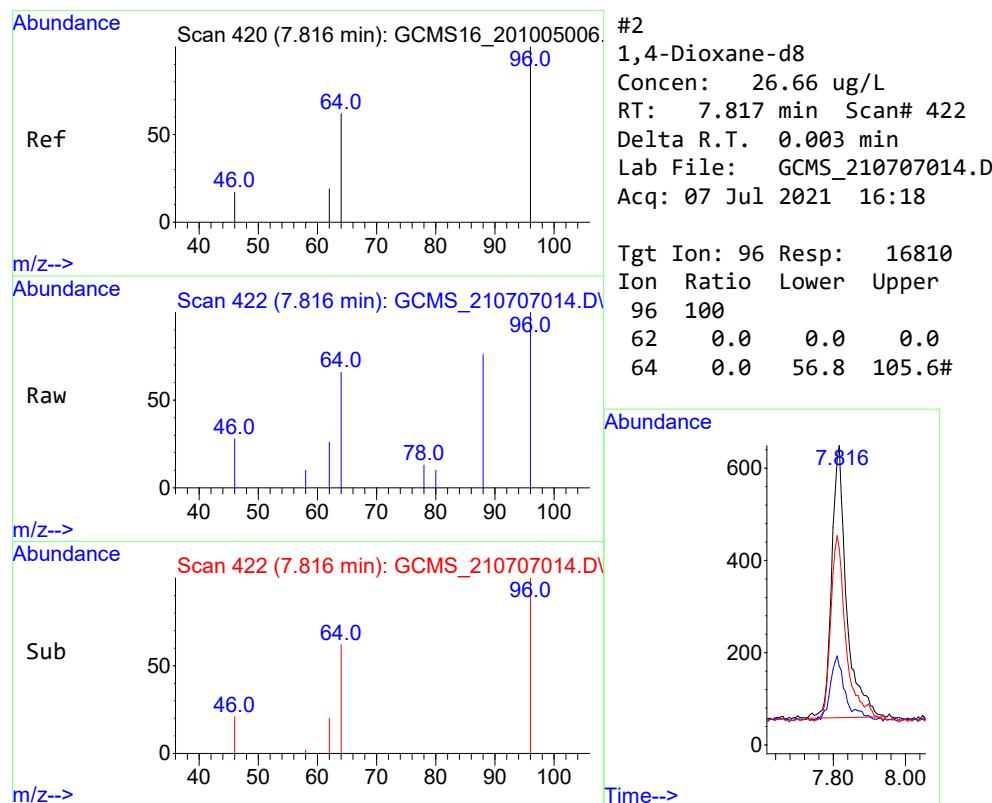
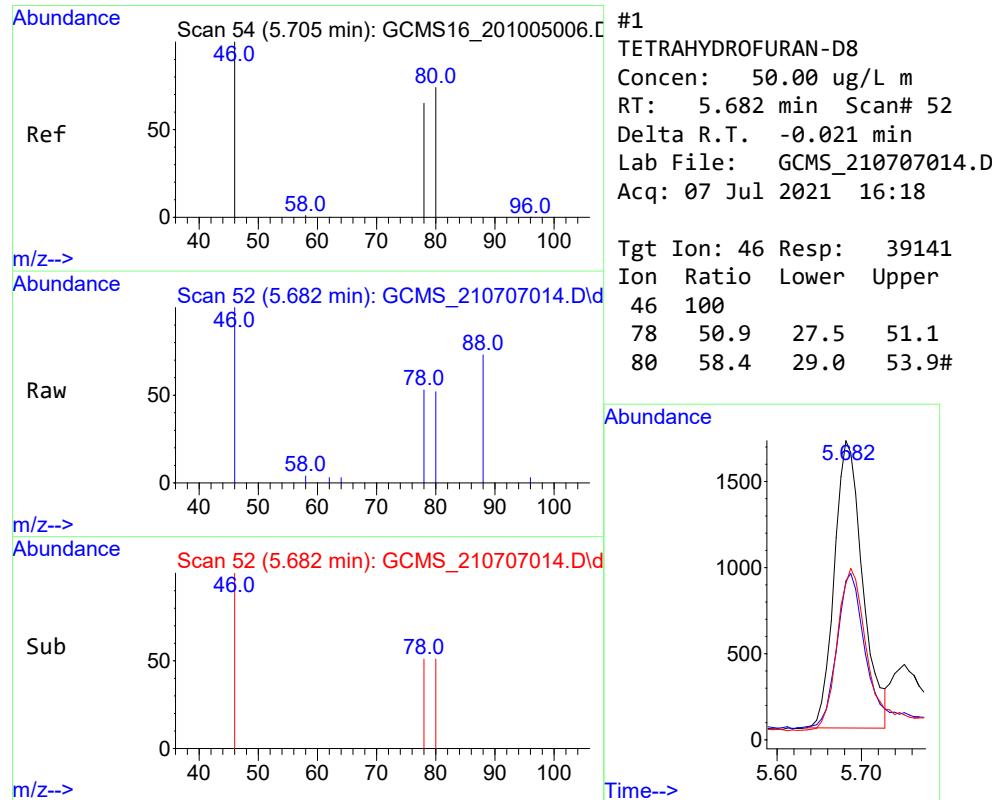
REVIEWED

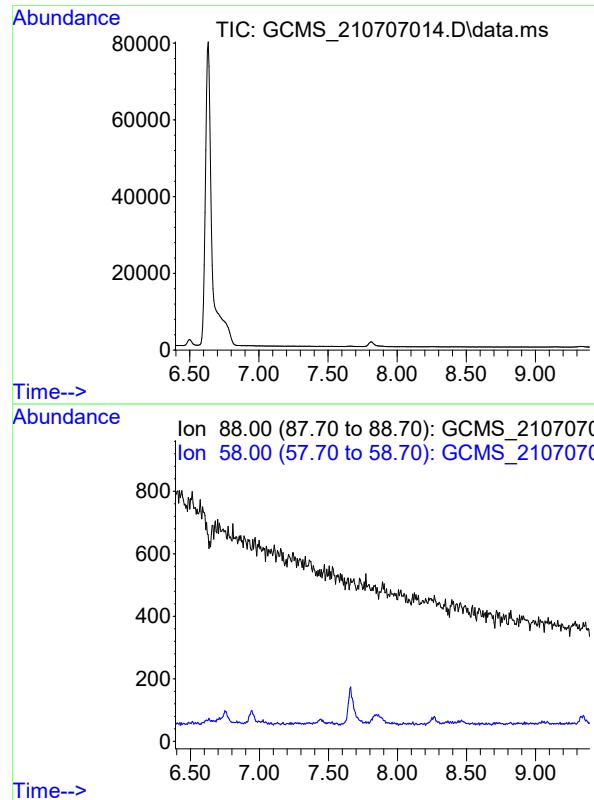
By Bruce Gallant at 8:40 am, Aug 17, 2021

Data Path : D:\MassHunter\Data\210707mak\  
Data File : GCMS\_210707014.D  
Acq On : 07 Jul 2021 16:18  
Operator :  
Sample : E21G004-BLK1  
Misc :  
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 08 09:11:27 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration



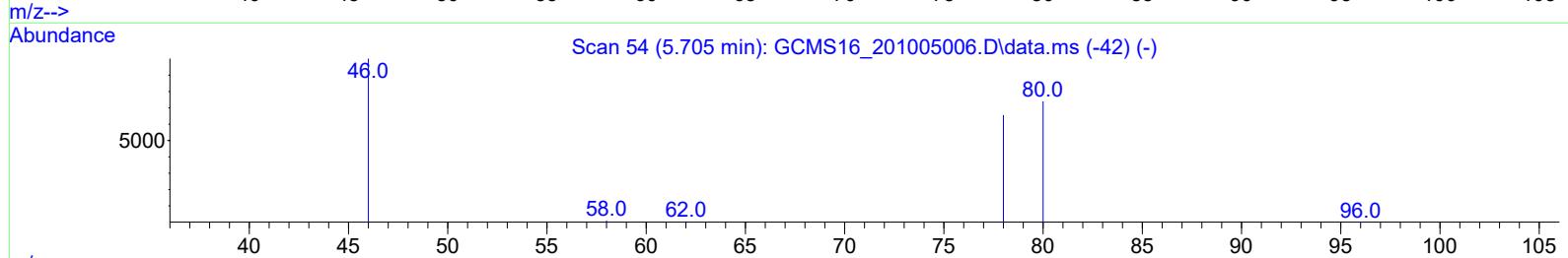
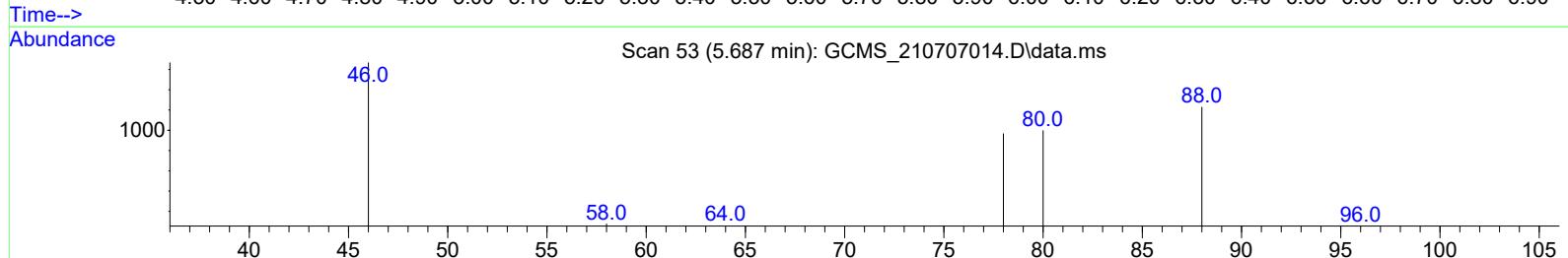
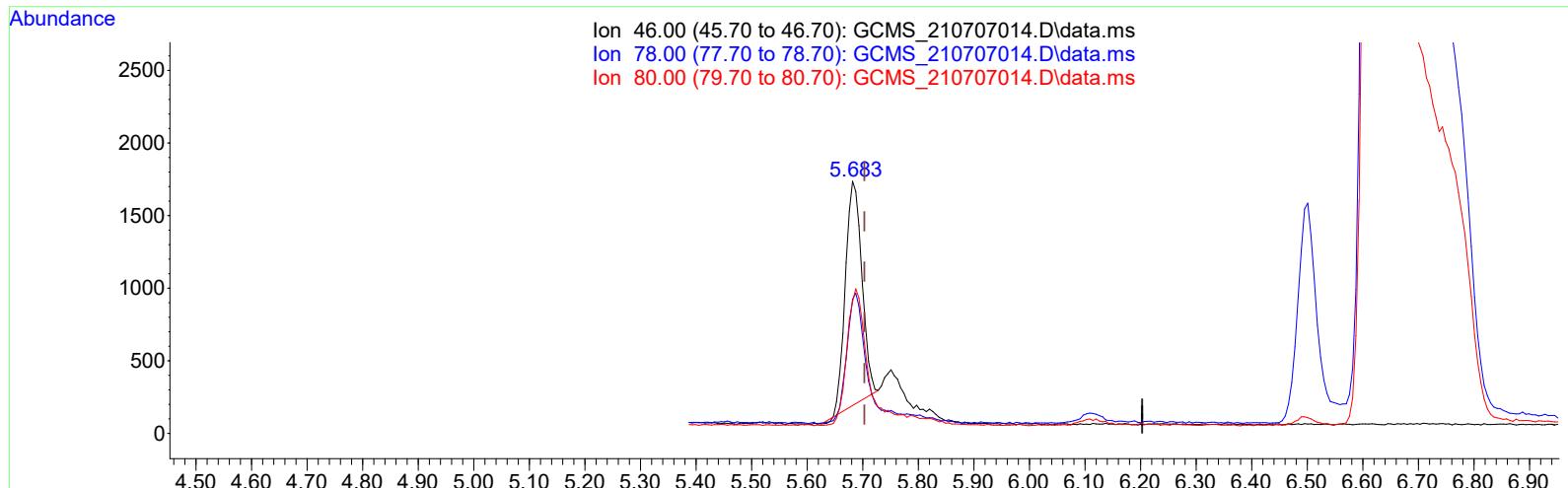




#3  
1,4-Dioxane  
Concen: N.D.  
Expected RT: 7.89 min  
  
Lab File: GCMS\_210707014.D  
Acq: 07 Jul 2021 16:18  
  
Tgt Ion: 88  
Sig Exp Ratio  
88 100  
58 103.6

Data Path : D:\MassHunter\GCMS\1\data\210707mak\  
 Data File : GCMS\_210707014.D  
 Acq On : 07 Jul 2021 04:18 pm  
 Operator :  
 Sample : E21G004-BLK1  
 Misc :  
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 08 09:11:27 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210707014.D\data.ms

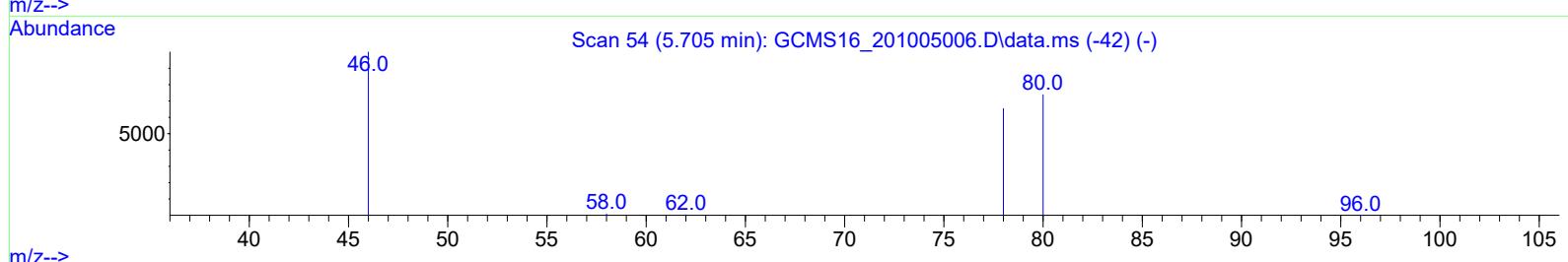
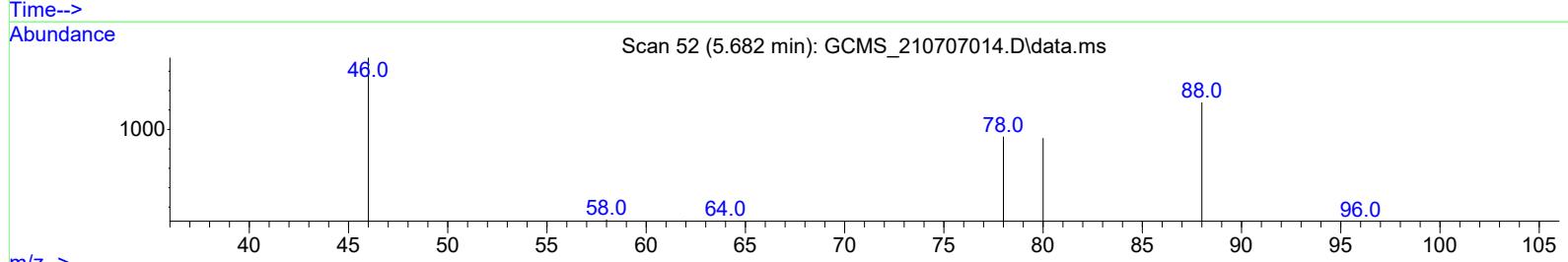
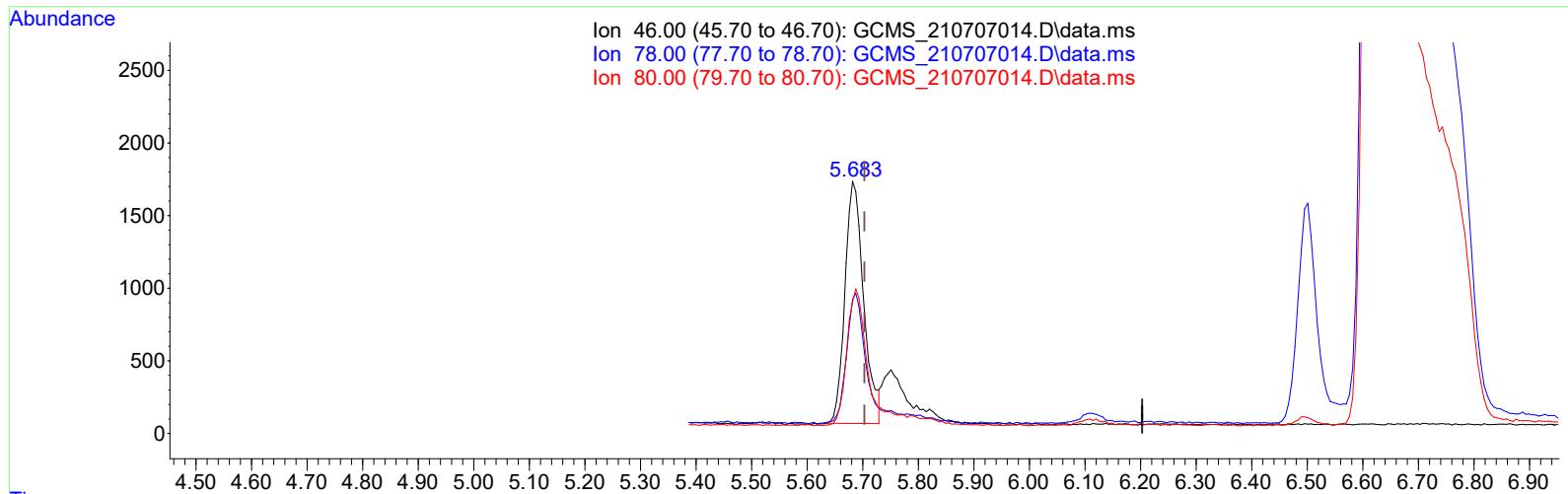
(1) TETRAHYDROFURAN-D8 (I)  
 5.685min (-0.018) 50.00 ug/L

response 31276

Ion	Exp%	Act%
46.00	100.00	100.00
78.00	39.30	63.71#
80.00	41.50	73.09#
0.00	0.00	0.00

Data Path : D:\MassHunter\Data\210707mak\  
 Data File : GCMS\_210707014.D  
 Acq On : 07 Jul 2021 04:18 pm  
 Operator :  
 Sample : E21G004-BLK1  
 Misc :  
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 08 09:11:27 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210707014.D\data.ms

(1) TETRAHYDROFURAN-D8 (I)  
 5.682min (-0.021) 50.00 ug/L m

response	39141	
Ion	Exp%	Act%
46.00	100.00	100.00
78.00	39.30	50.91
80.00	41.50	58.40#
0.00	0.00	0.00

**REVIEWED**  
 By Bruce Gallant at 8:40 am, Aug 17, 2021

Data Path : D:\MassHunter\Data\210707mak\  
Data File : GCMS\_210707015.D  
Acq On : 07 Jul 2021 16:40  
Operator :  
Sample : E21G004-MRL1  
Misc :  
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 08 09:11:30 2021

Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M

Quant Title : Initial Calibration of 1,4-Dioxane 021317

QLast Update : Thu Jun 24 15:10:43 2021

Response via : Initial Calibration

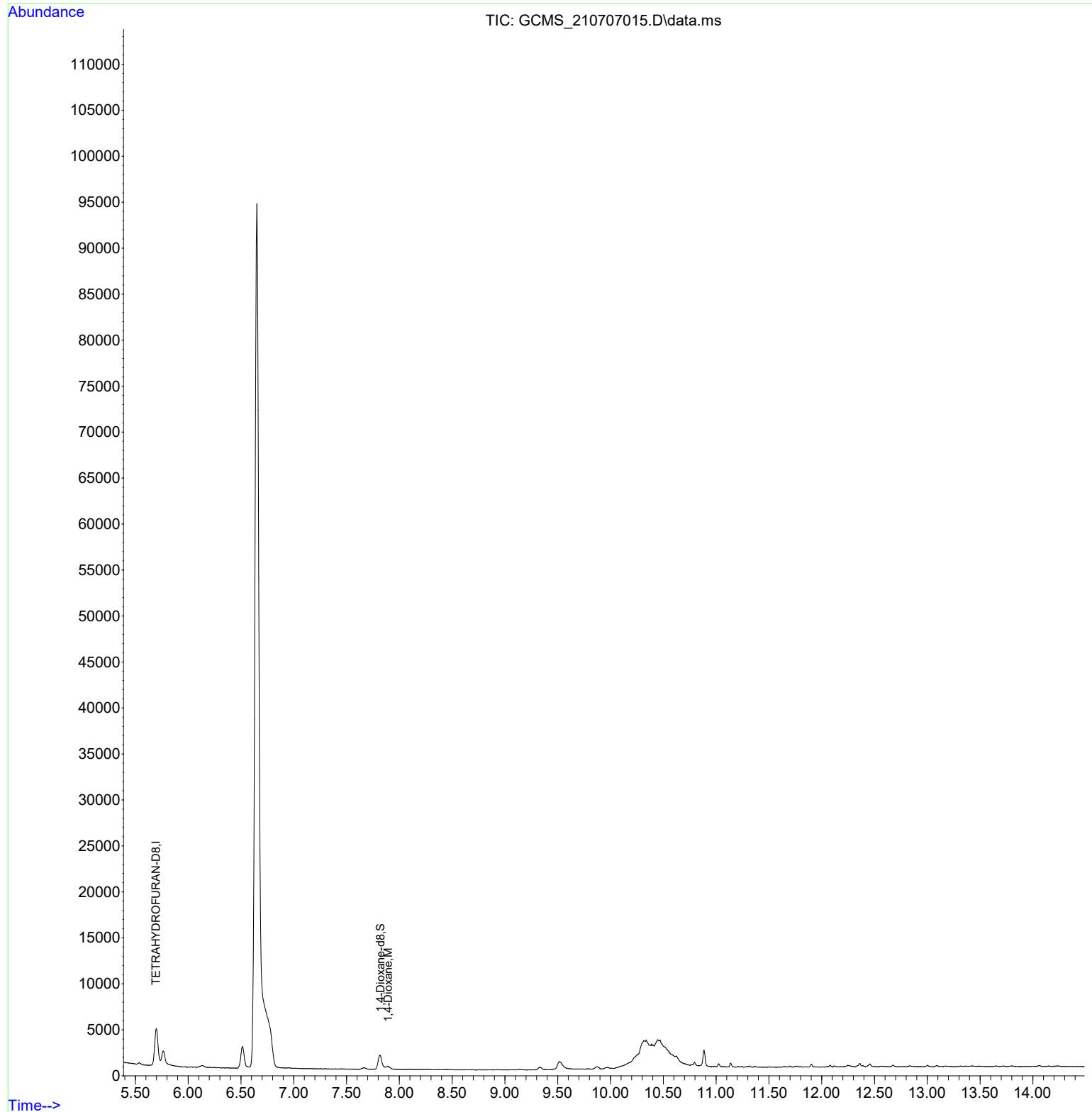
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	5.699	46	45200m	50.00	ug/L	0.00
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	7.819	96	18634	25.60	ug/L	0.00
<hr/>						
Target Compounds				Qvalue		
3) 1,4-Dioxane	7.891	88	3610m	4.71	ug/L	
<hr/>						

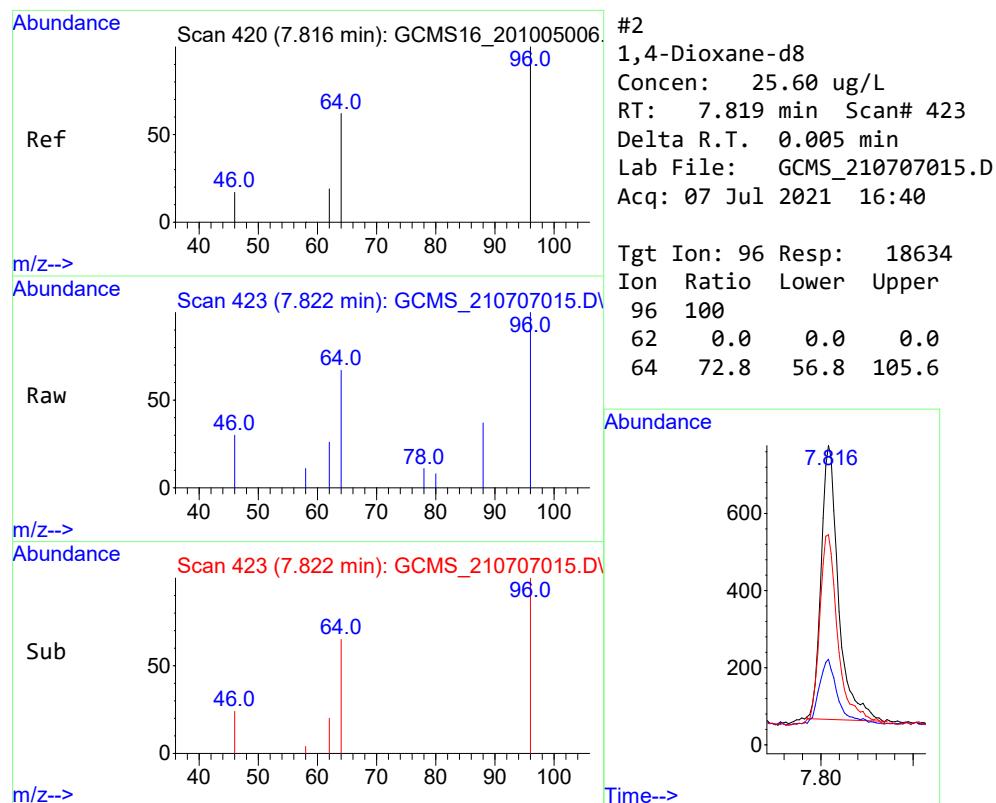
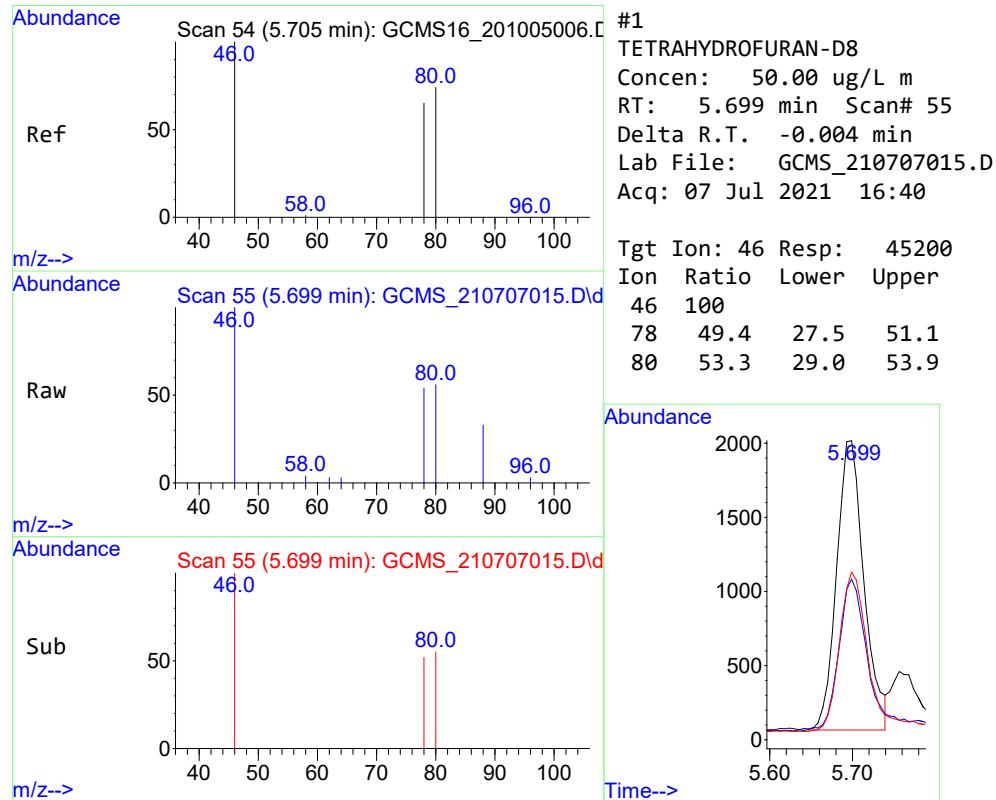
(#) = qualifier out of range (m) = manual integration (+) = signals summed

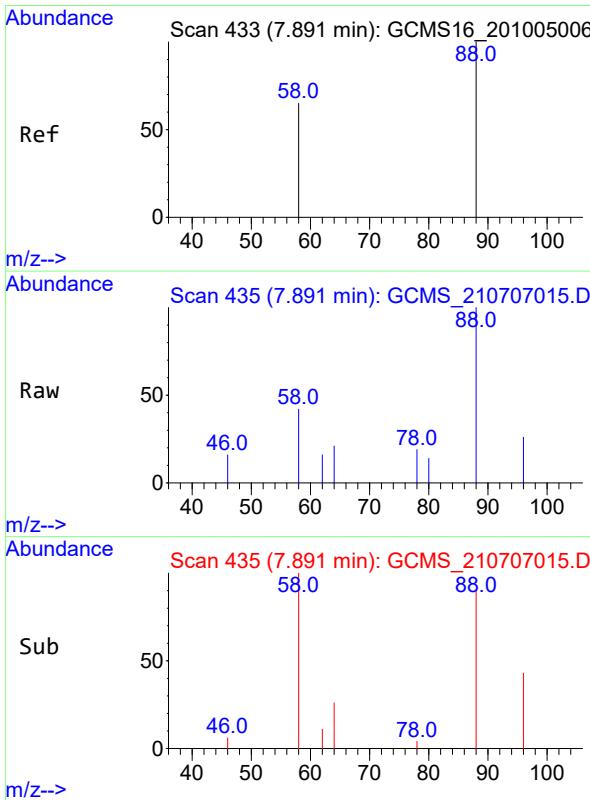
REVIEWED  
By Bruce Gallant at 8:42 am, Aug 17, 2021

Data Path : D:\MassHunter\Data\210707mak\  
Data File : GCMS\_210707015.D  
Acq On : 07 Jul 2021 16:40  
Operator :  
Sample : E21G004-MRL1  
Misc :  
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 08 09:11:30 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration

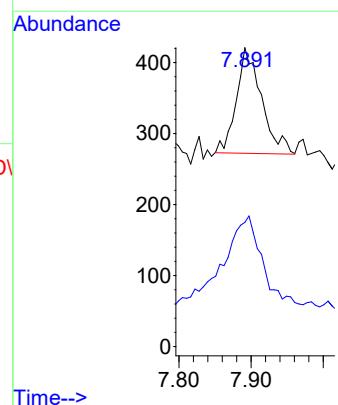






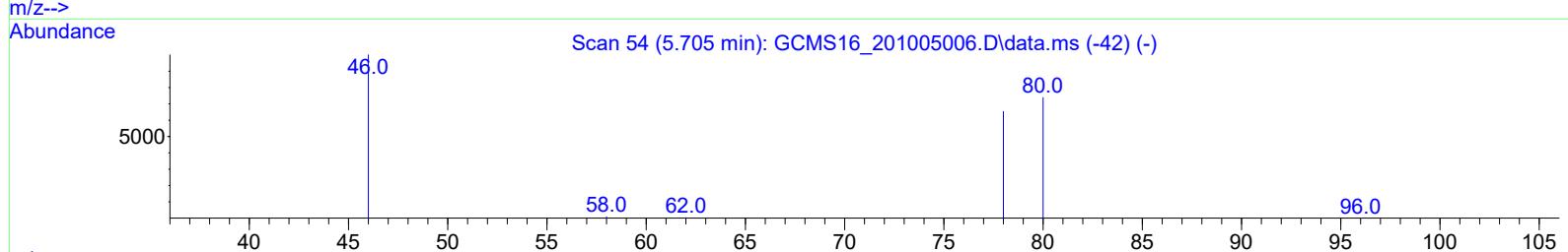
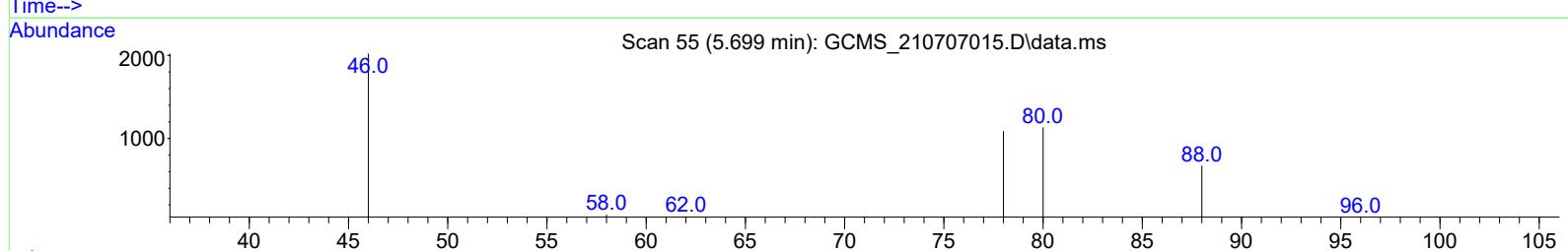
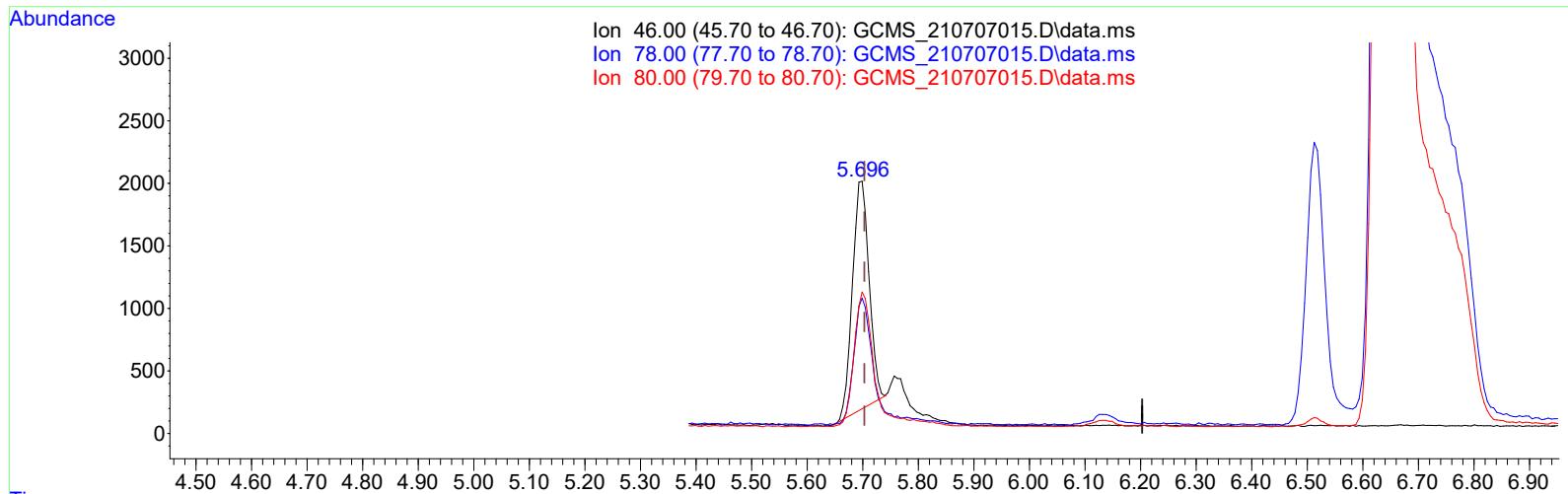
#3  
 1,4-Dioxane  
 Concen: 4.71 ug/L m  
 RT: 7.891 min Scan# 435  
 Delta R.T. -0.001 min  
 Lab File: GCMS\_210707015.D  
 Acq: 07 Jul 2021 16:40

Tgt Ion: 88 Resp: 3610  
 Ion Ratio Lower Upper  
 88 100  
 58 0.0 72.5 134.7#



Data Path : D:\MassHunter\GCMS\1\data\210707mak\  
 Data File : GCMS\_210707015.D  
 Acq On : 07 Jul 2021 04:40 pm  
 Operator :  
 Sample : E21G004-MRL1  
 Misc :  
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 08 09:11:30 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210707015.D\data.ms

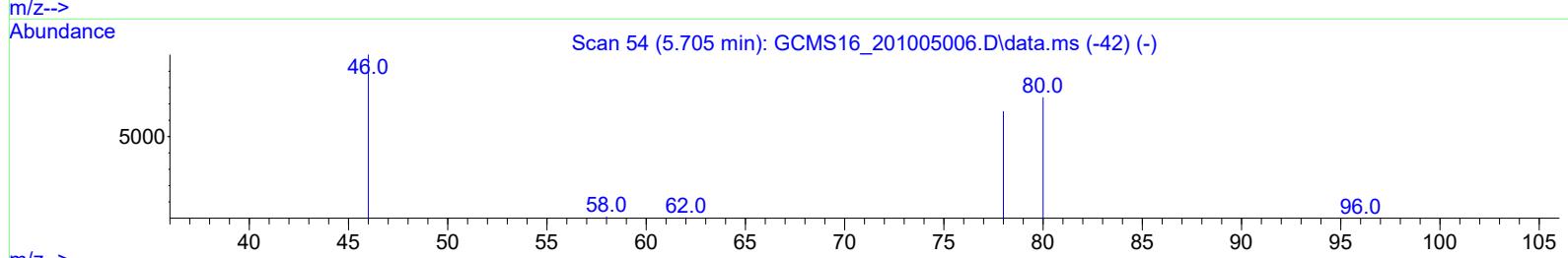
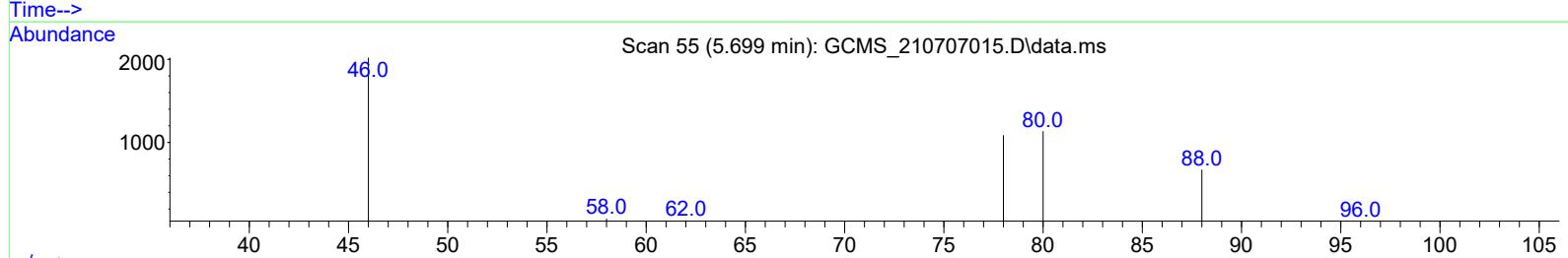
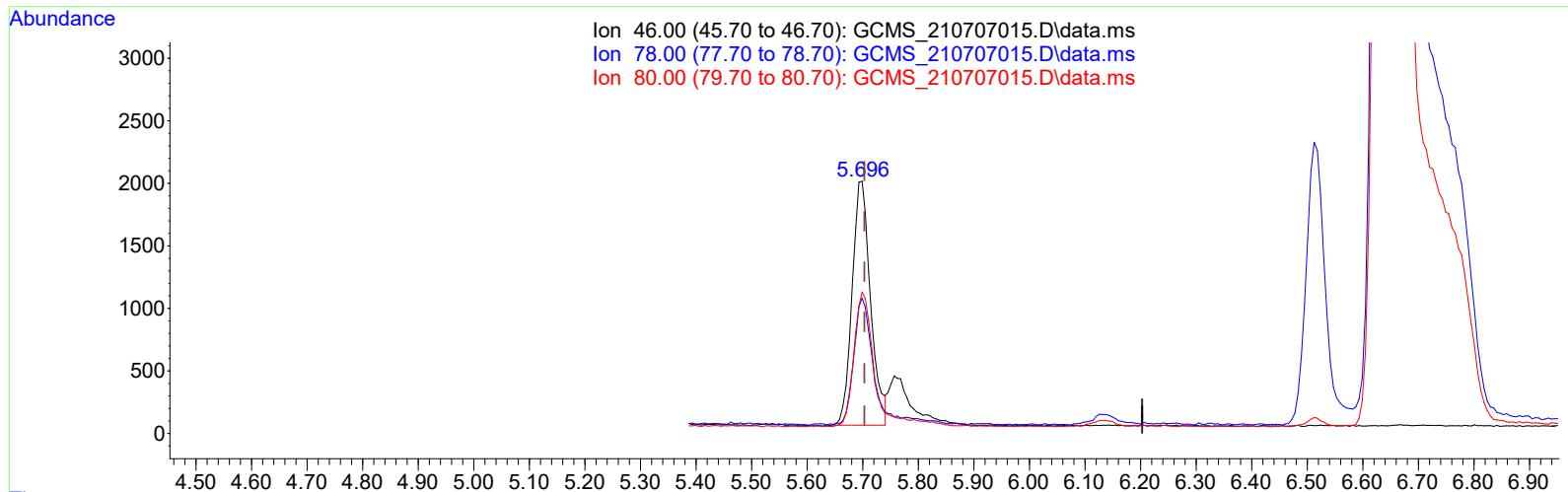
(1) TETRAHYDROFURAN-D8 (I)  
 5.699min (-0.004) 50.00 ug/L

response 37637

Ion	Exp%	Act%
46.00	100.00	100.00
78.00	39.30	59.38#
80.00	41.50	63.96#
0.00	0.00	0.00

Data Path : D:\MassHunter\Data\210707mak\  
 Data File : GCMS\_210707015.D  
 Acq On : 07 Jul 2021 04:40 pm  
 Operator :  
 Sample : E21G004-MRL1  
 Misc :  
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 08 09:11:30 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210707015.D\data.ms

(1) TETRAHYDROFURAN-D8 (I)  
 5.699min (-0.004) 50.00 ug/L m

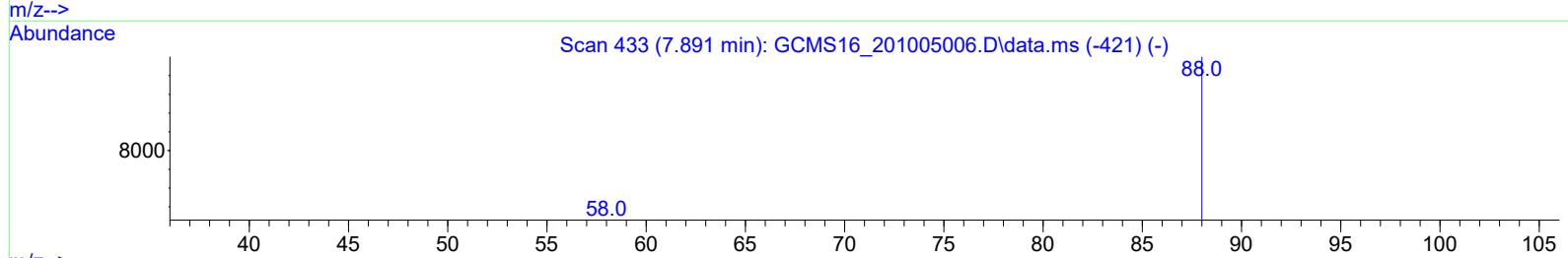
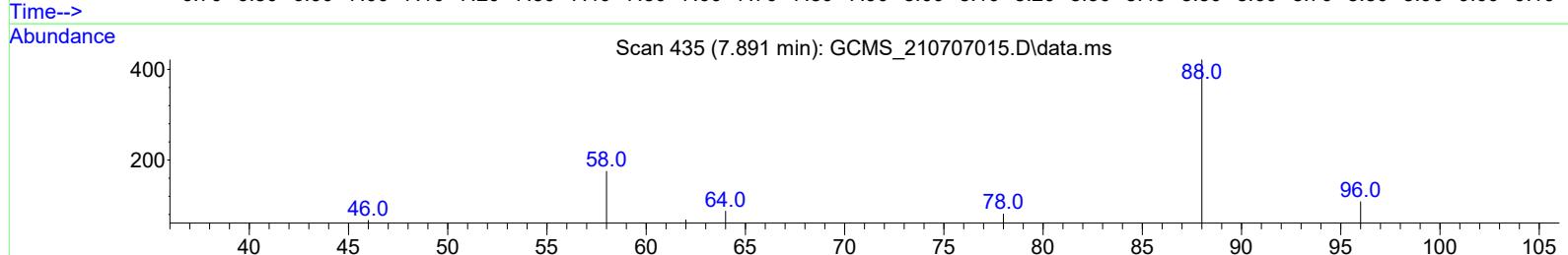
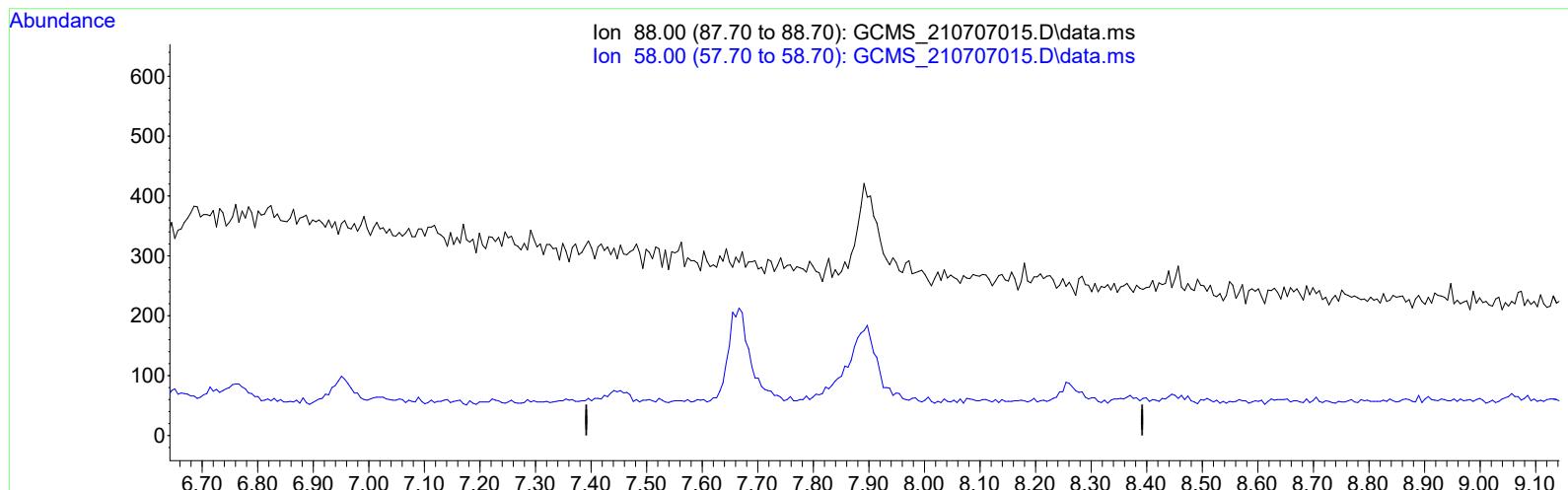
response 45200

Ion	Exp%	Act%
46.00	100.00	100.00
78.00	39.30	49.45
80.00	41.50	53.26
0.00	0.00	0.00

REVIEWED  
 By Bruce Gallant at 8:42 am, Aug 17, 2021

Data Path : D:\MassHunter\GCMS\1\data\210707mak\  
 Data File : GCMS\_210707015.D  
 Acq On : 07 Jul 2021 04:40 pm  
 Operator :  
 Sample : E21G004-MRL1  
 Misc :  
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 08 09:11:30 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210707015.D\data.ms

(3) 1,4-Dioxane (M)

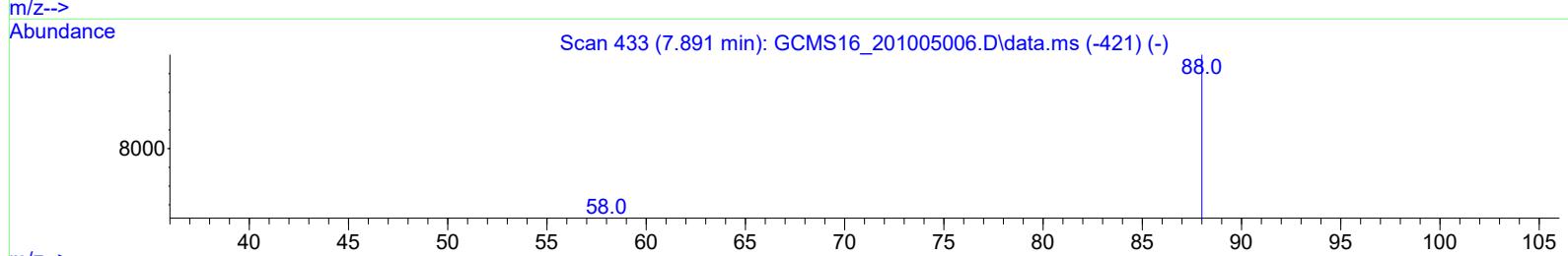
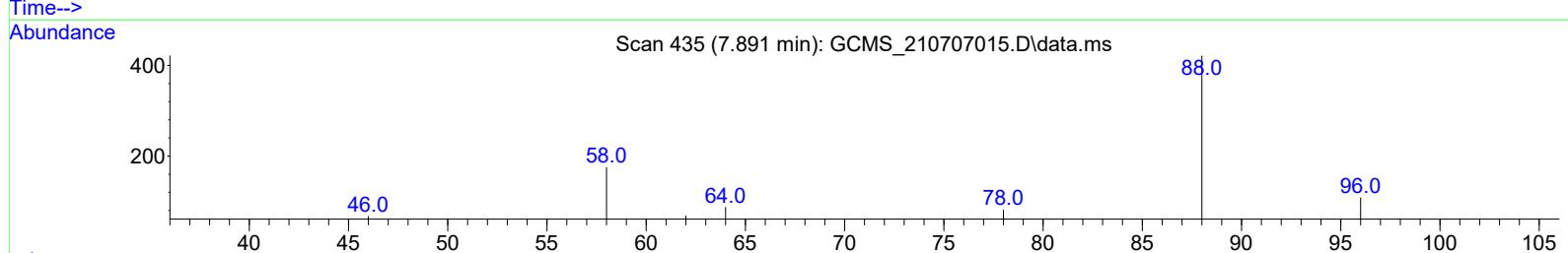
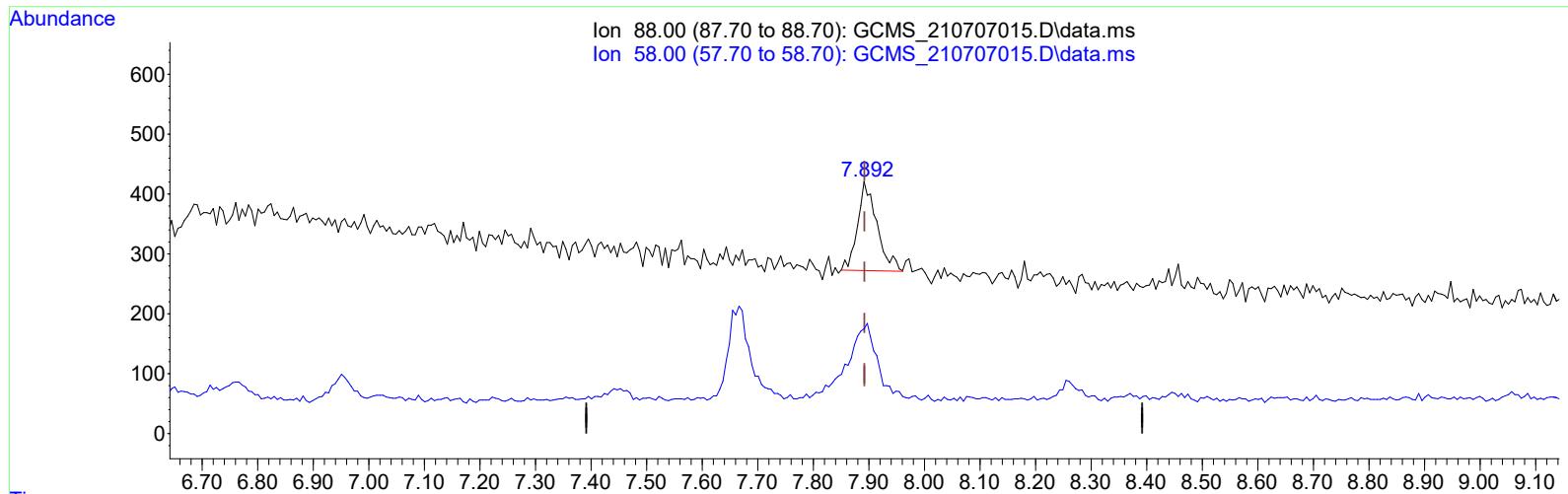
7.892min (-7.892) 0.00 ug/L

response 0

Ion	Exp%	Act%
88.00	100.00	0.00
58.00	103.60	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : D:\MassHunter\Data\210707mak\  
 Data File : GCMS\_210707015.D  
 Acq On : 07 Jul 2021 04:40 pm  
 Operator :  
 Sample : E21G004-MRL1  
 Misc :  
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 08 09:11:30 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210707015.D\data.ms

(3) 1,4-Dioxane (M)

7.891min (-0.001) 4.71 ug/L m

response 3610

Ion	Exp%	Act%
88.00	100.00	100.00
58.00	103.60	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : D:\MassHunter\Data\210707mak\  
Data File : GCMS\_210707016.D  
Acq On : 07 Jul 2021 17:01  
Operator :  
Sample : E21G004-BS1  
Misc :  
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 08 09:11:32 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration

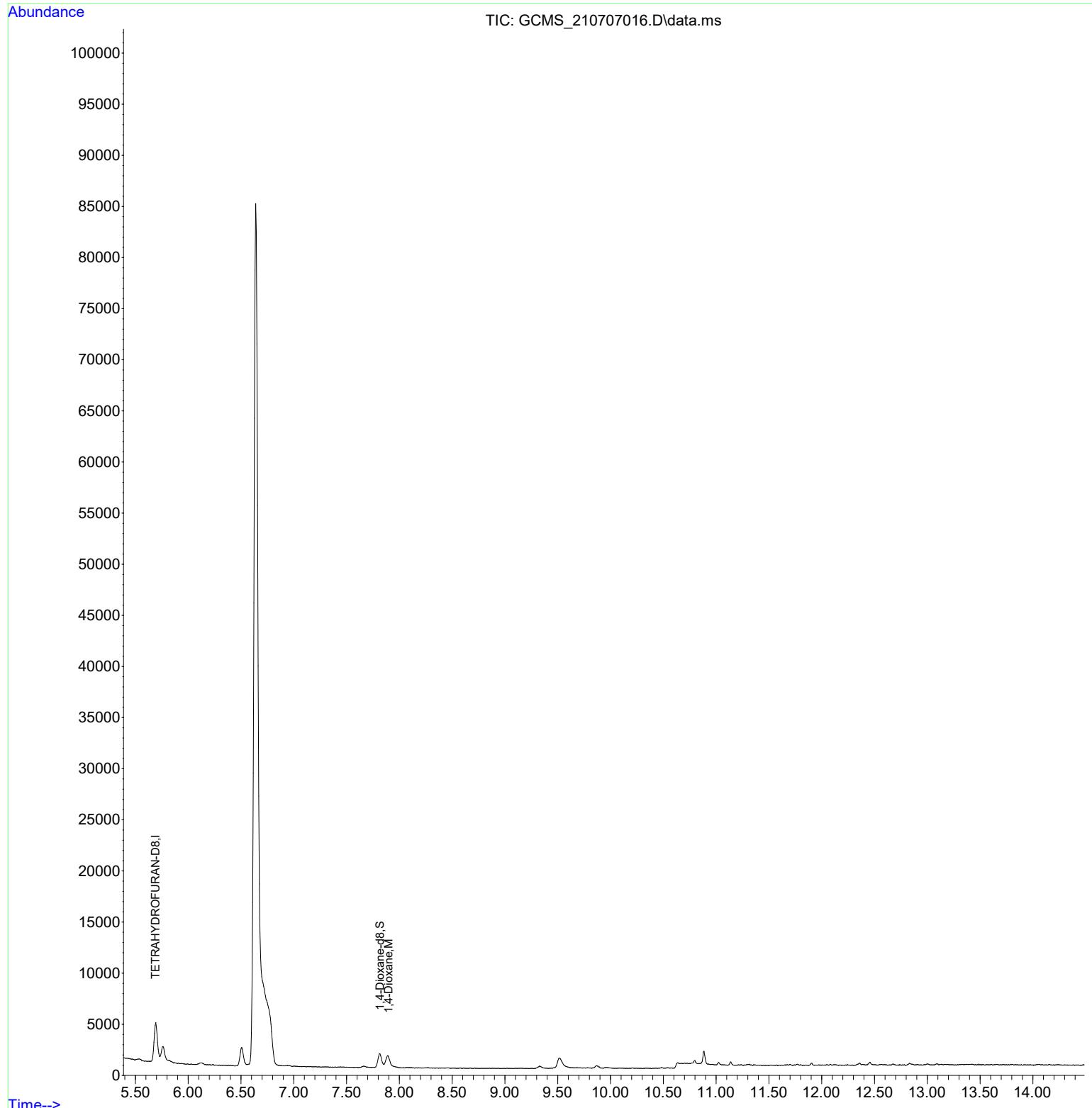
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	5.693	46	42273m	50.00	ug/L	0.00
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	7.818	96	16565	24.33	ug/L	0.00
<hr/>						
Target Compounds				Qvalue		
3) 1,4-Dioxane	7.895	88	17741	24.74	ug/L	85
<hr/>						

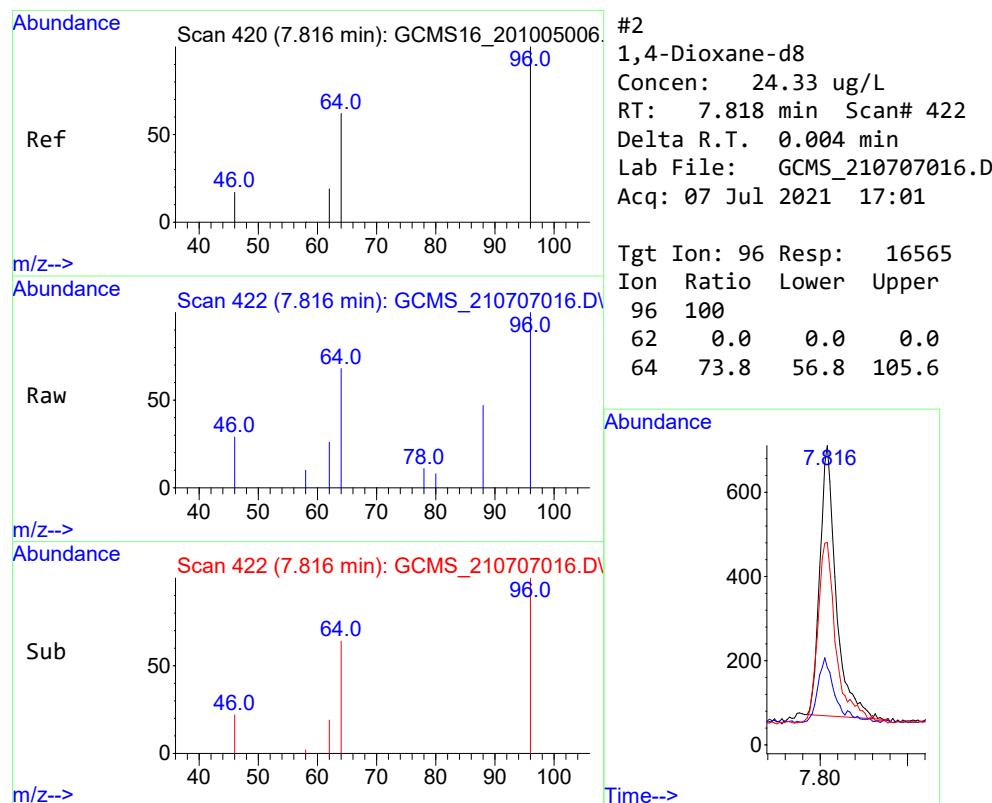
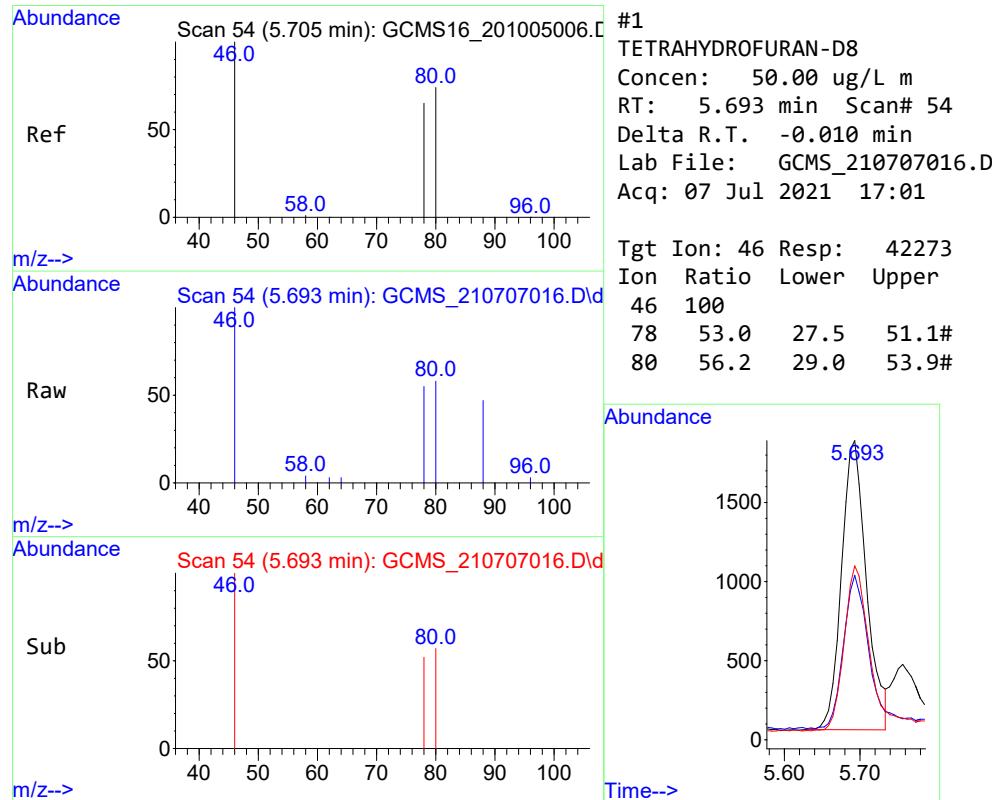
(#) = qualifier out of range (m) = manual integration (+) = signals summed

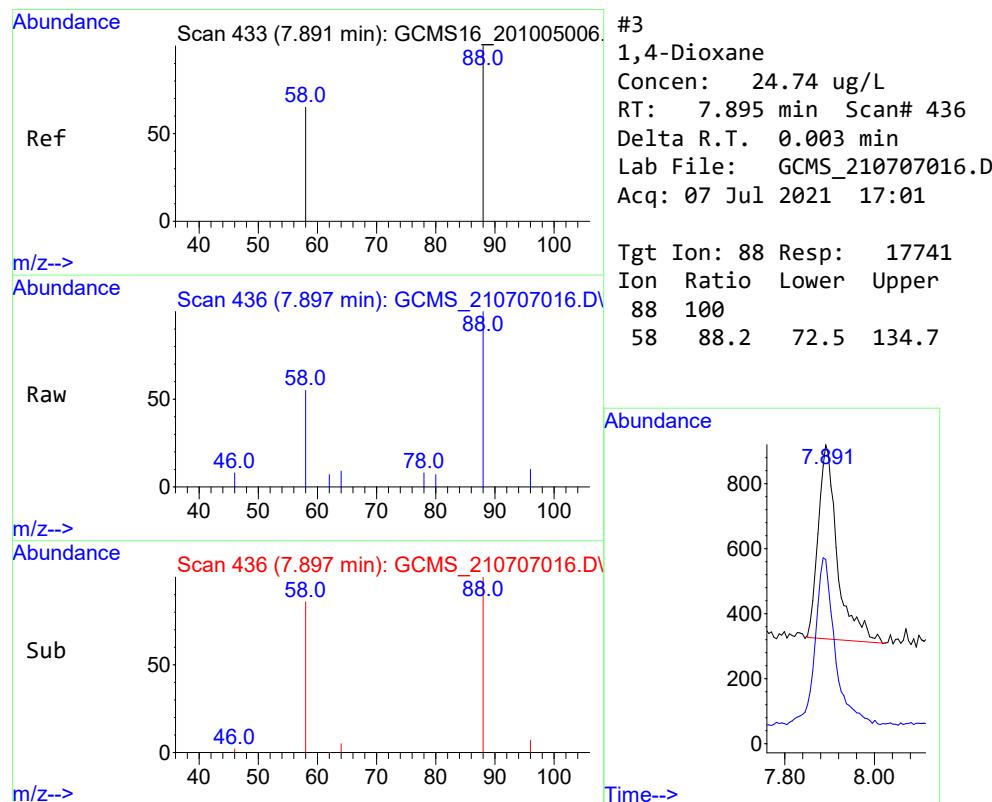


Data Path : D:\MassHunter\Data\210707mak\  
Data File : GCMS\_210707016.D  
Acq On : 07 Jul 2021 17:01  
Operator :  
Sample : E21G004-BS1  
Misc :  
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 08 09:11:32 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration

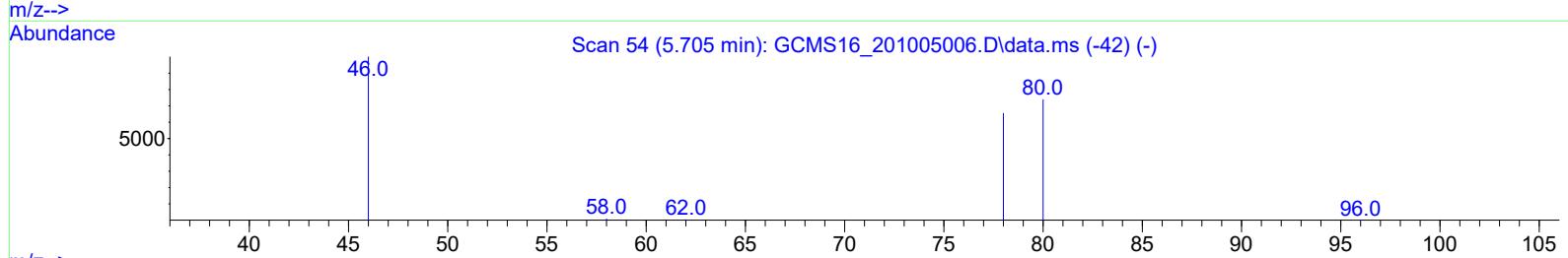
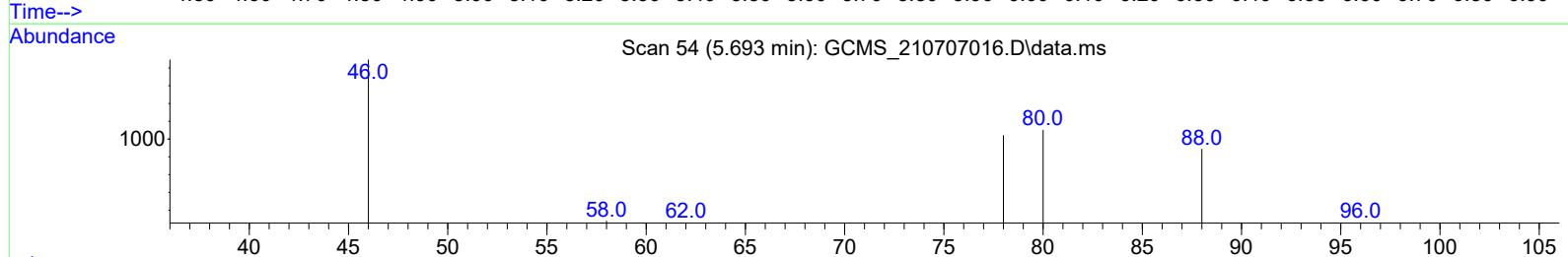
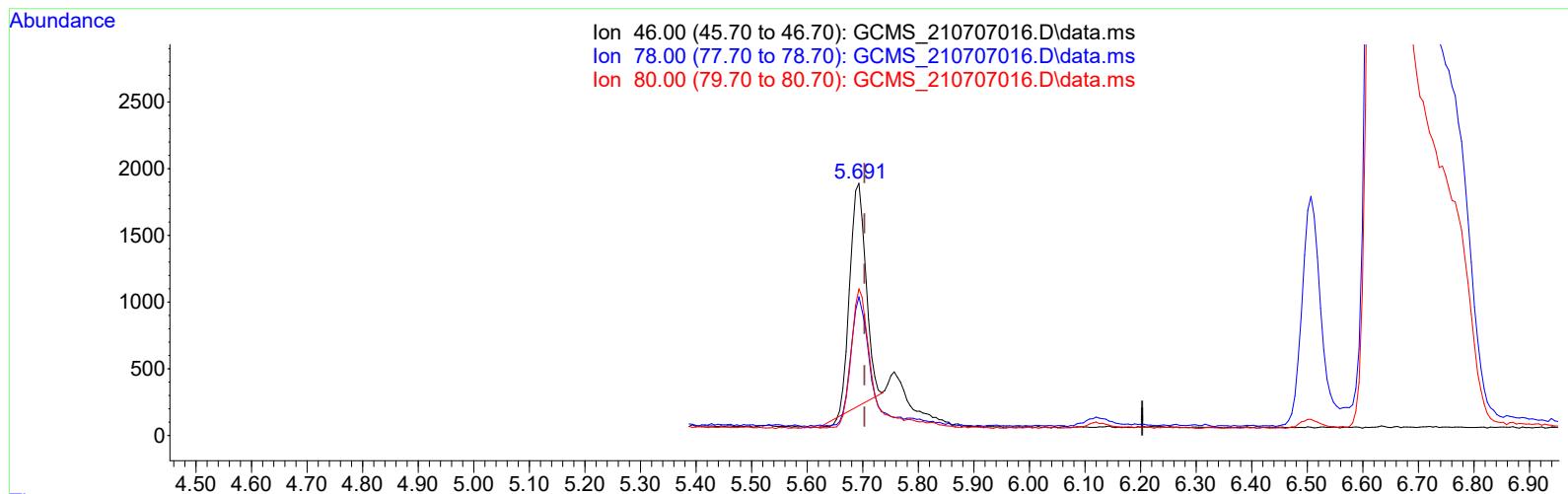






Data Path : D:\MassHunter\GCMS\1\data\210707mak\  
 Data File : GCMS\_210707016.D  
 Acq On : 07 Jul 2021 05:01 pm  
 Operator :  
 Sample : E21G004-BS1  
 Misc :  
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 08 09:11:32 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210707016.D\data.ms

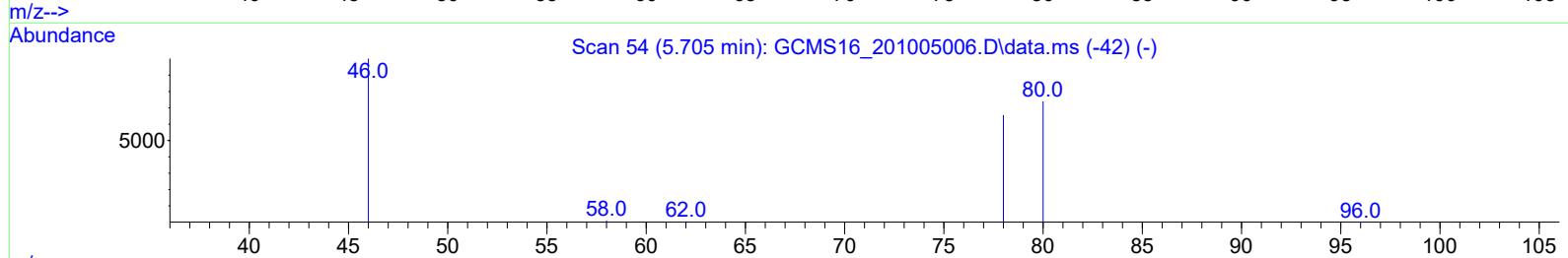
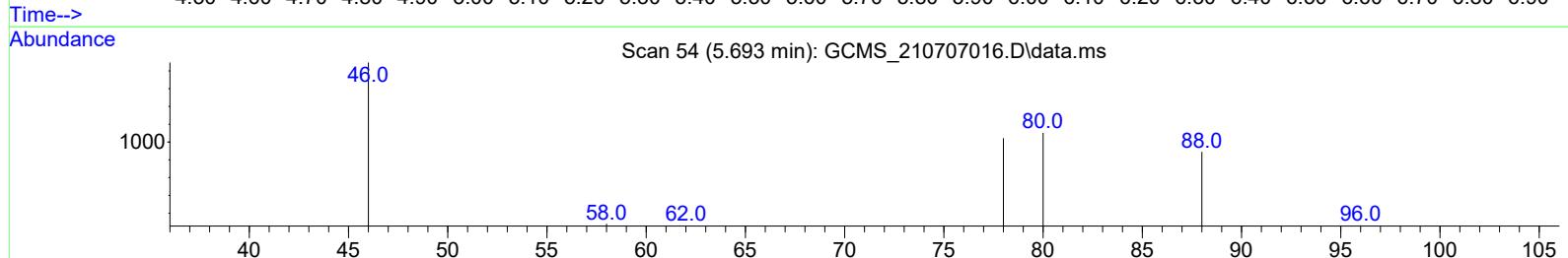
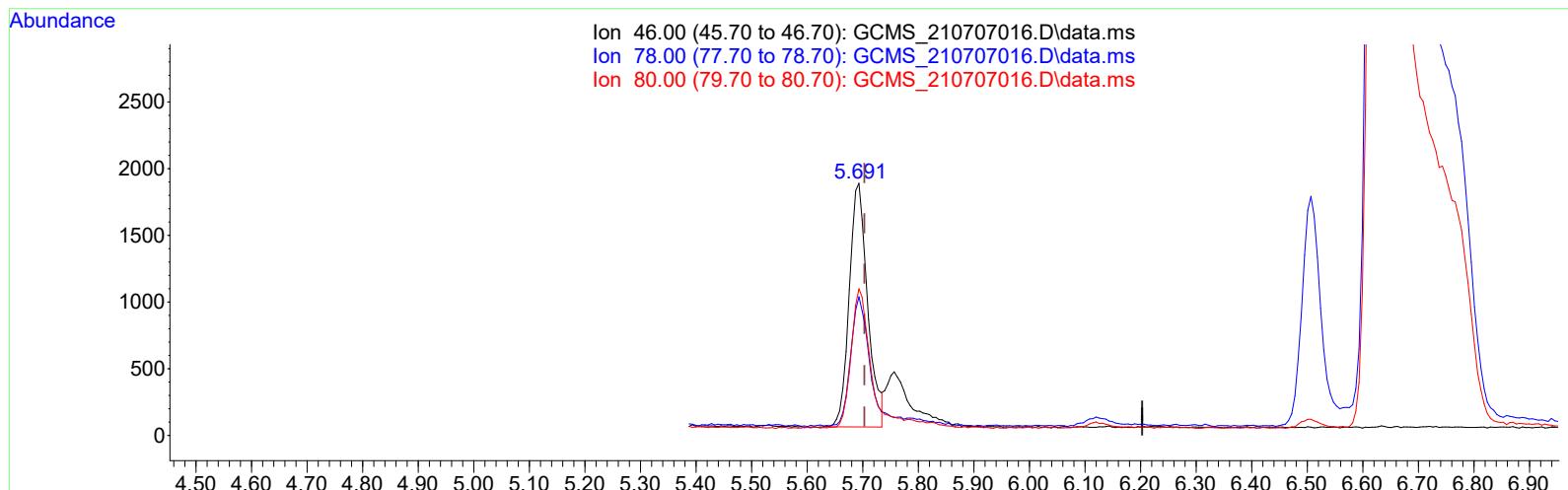
(1) TETRAHYDROFURAN-D8 (I)  
 5.693min (-0.010) 50.00 ug/L

response 32722

Ion	Exp%	Act%
46.00	100.00	100.00
78.00	39.30	68.51#
80.00	41.50	72.60#
0.00	0.00	0.00

Data Path : D:\MassHunter\Data\210707mak\  
 Data File : GCMS\_210707016.D  
 Acq On : 07 Jul 2021 05:01 pm  
 Operator :  
 Sample : E21G004-BS1  
 Misc :  
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 08 09:11:32 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210707016.D\data.ms

## (1) TETRAHYDROFURAN-D8 (I)

5.693min (-0.010) 50.00 ug/L m

response 42273

Ion	Exp%	Act%
46.00	100.00	100.00
78.00	39.30	53.03#
80.00	41.50	56.20#
0.00	0.00	0.00

**REVIEWED**

By Bruce Gallant at 8:43 am, Aug 17, 2021

Data Path : D:\MassHunter\Data\210707mak\  
Data File : GCMS\_210707017.D  
Acq On : 07 Jul 2021 17:22  
Operator :  
Sample : E21G004-BSD1  
Misc :  
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jul 08 09:11:34 2021

Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M

Quant Title : Initial Calibration of 1,4-Dioxane 021317

QLast Update : Thu Jun 24 15:10:43 2021

Response via : Initial Calibration

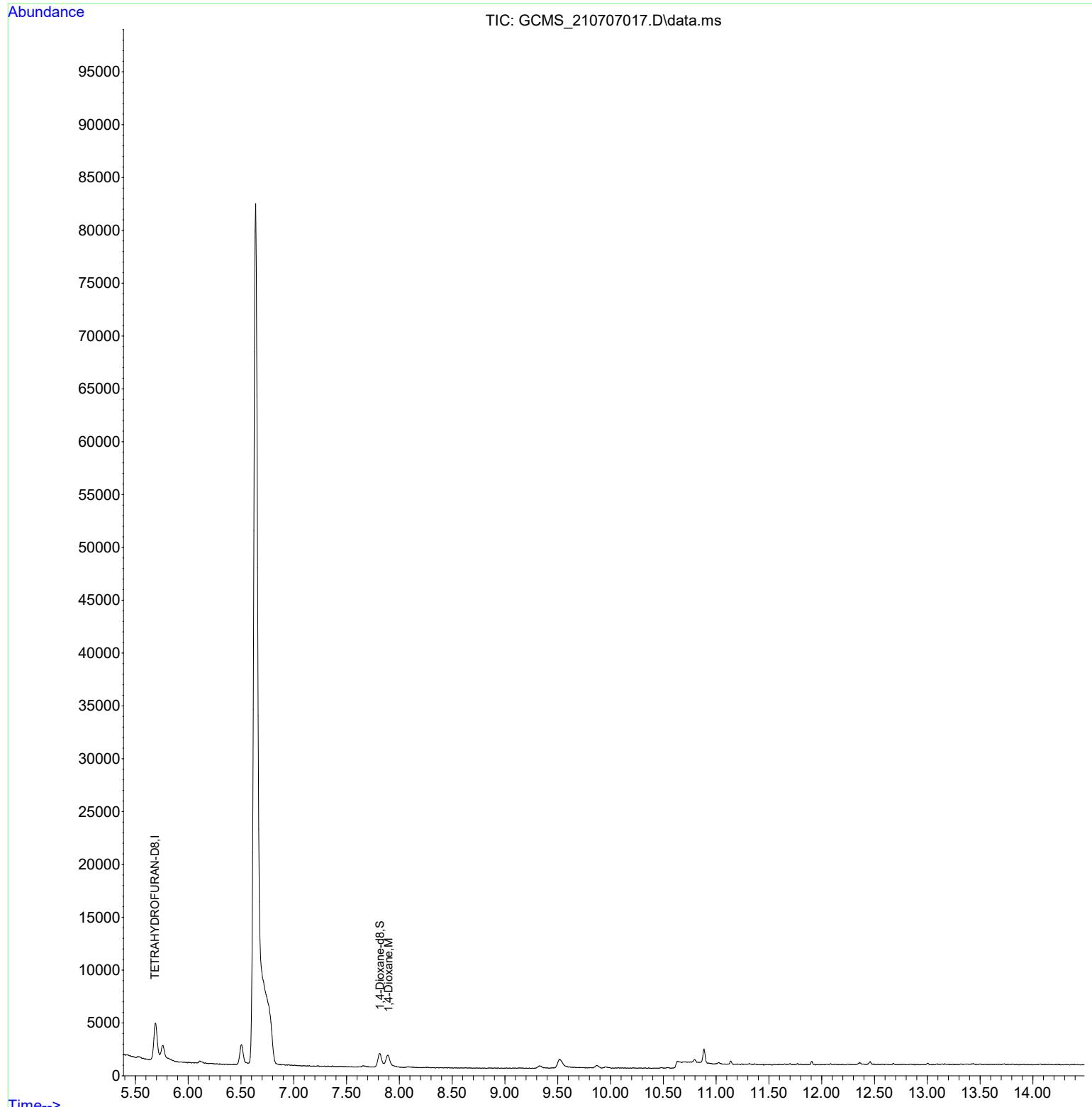
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	5.687	46	39720m	50.00	ug/L	-0.02
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	7.819	96	16509	25.81	ug/L	0.00
<hr/>						
Target Compounds				Qvalue		
3) 1,4-Dioxane	7.896	88	19376	28.76	ug/L	72
<hr/>						

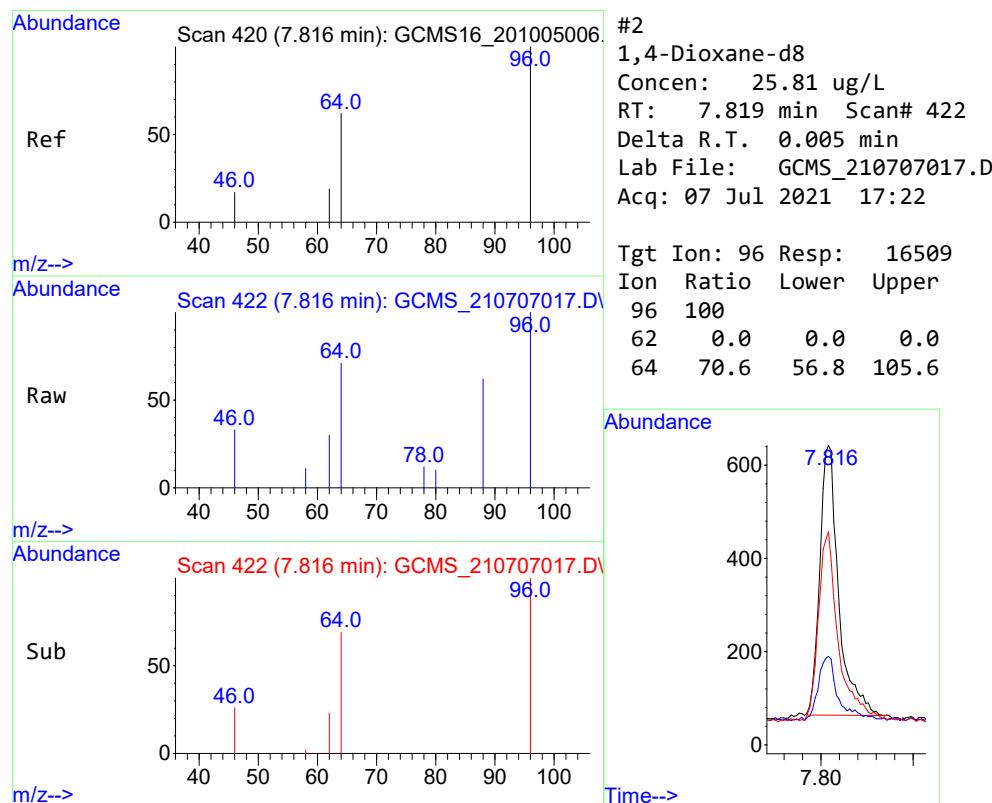
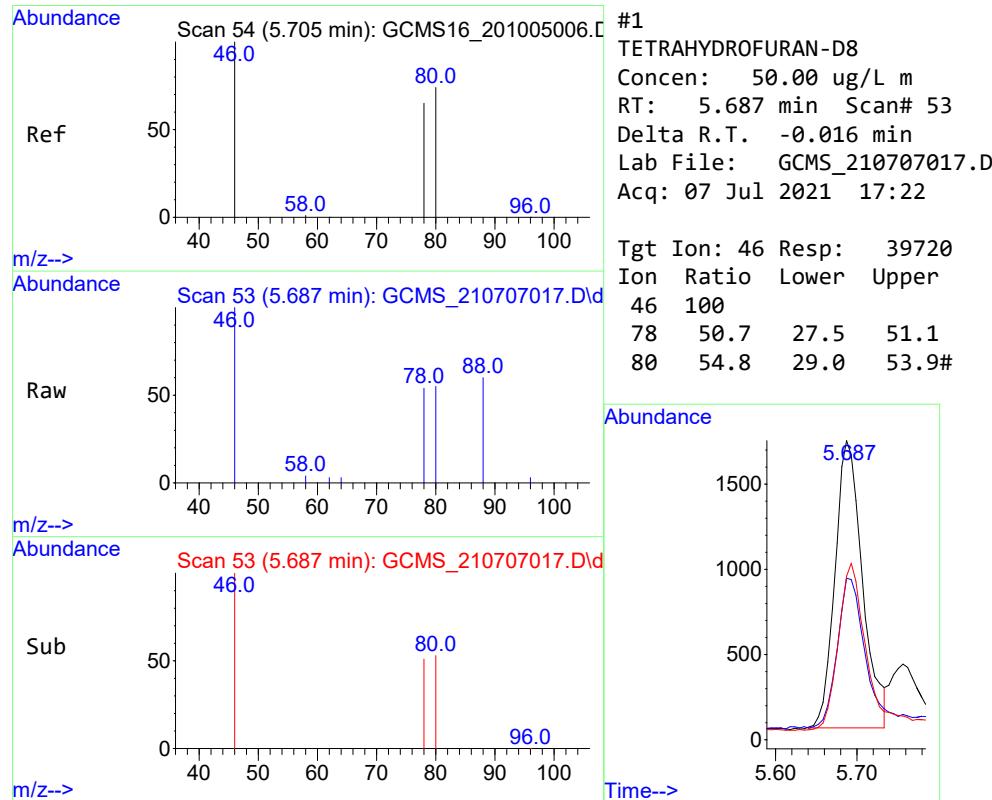
(#) = qualifier out of range (m) = manual integration (+) = signals summed

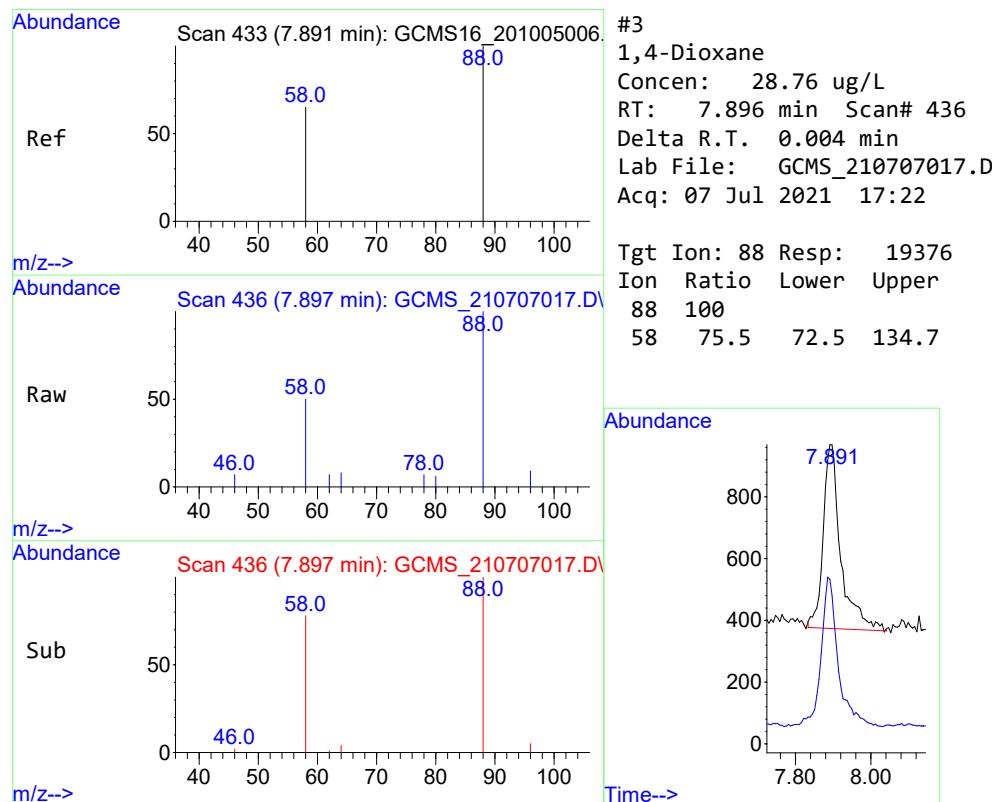


Data Path : D:\MassHunter\Data\210707mak\  
Data File : GCMS\_210707017.D  
Acq On : 07 Jul 2021 17:22  
Operator :  
Sample : E21G004-BSD1  
Misc :  
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jul 08 09:11:34 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration

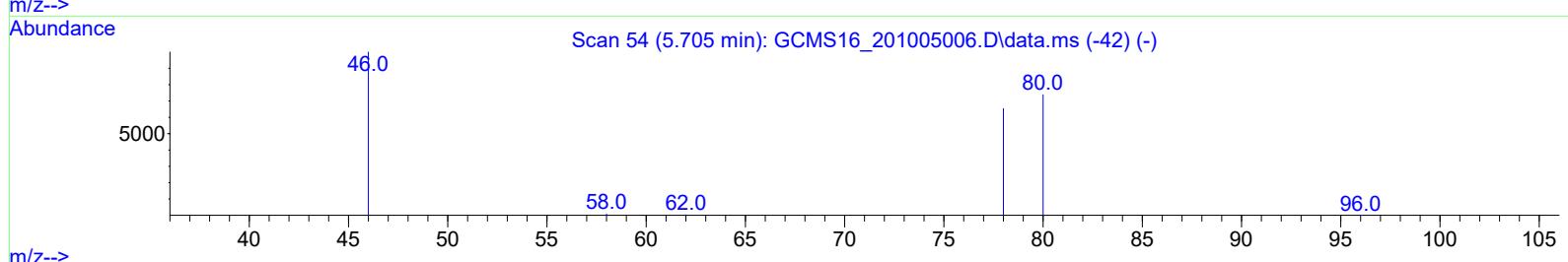
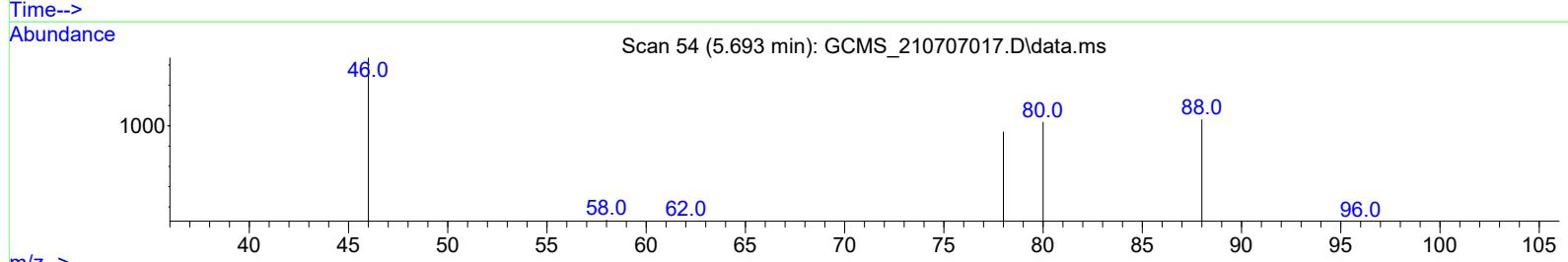
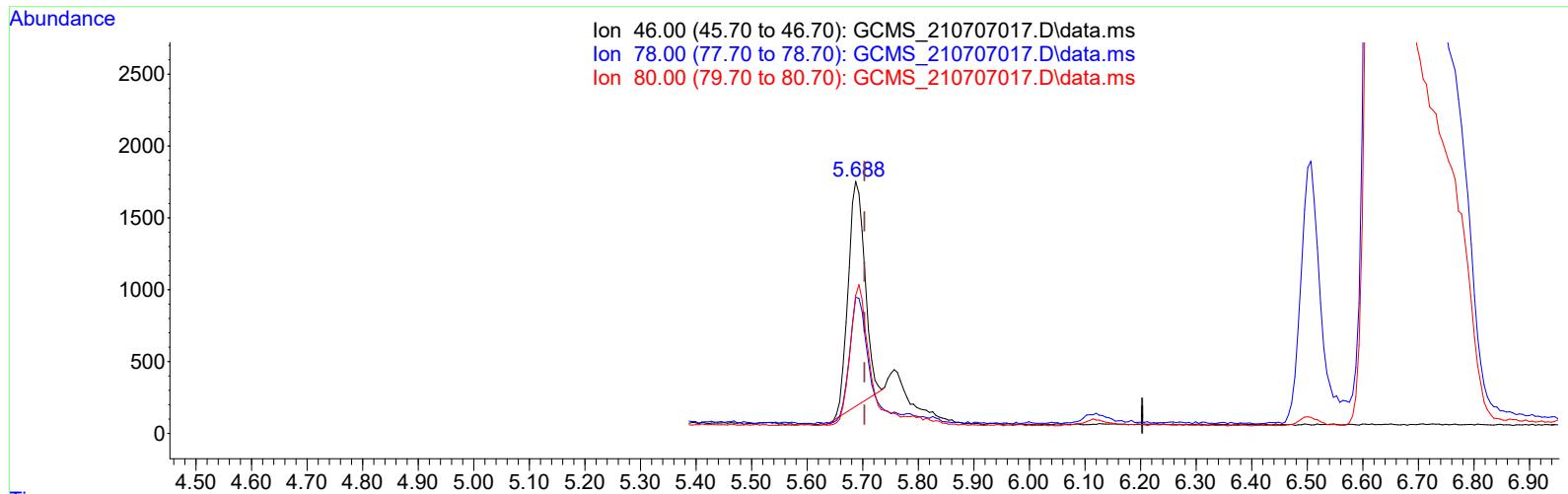






Data Path : D:\MassHunter\GCMS\1\data\210707mak\  
 Data File : GCMS\_210707017.D  
 Acq On : 07 Jul 2021 05:22 pm  
 Operator :  
 Sample : E21G004-BSD1  
 Misc :  
 ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jul 08 09:11:34 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210707017.D\data.ms

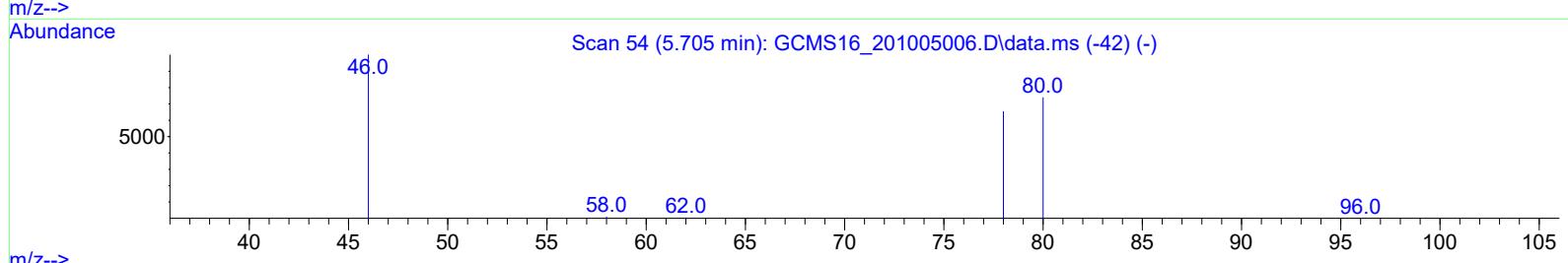
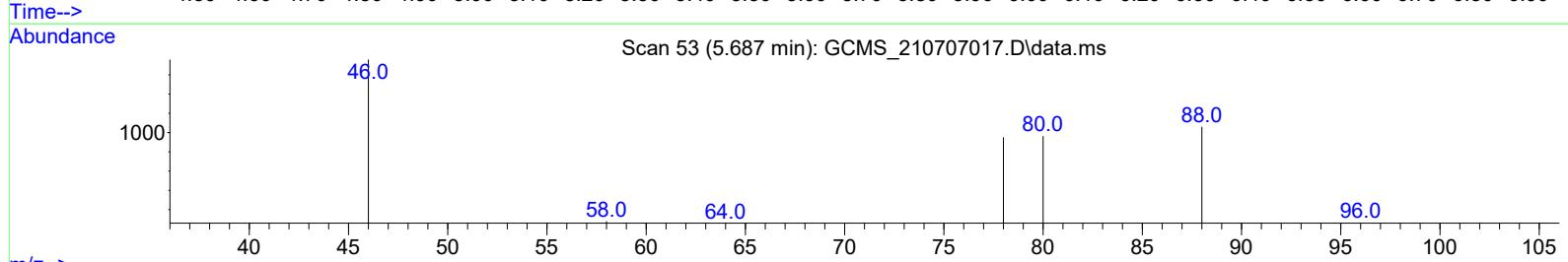
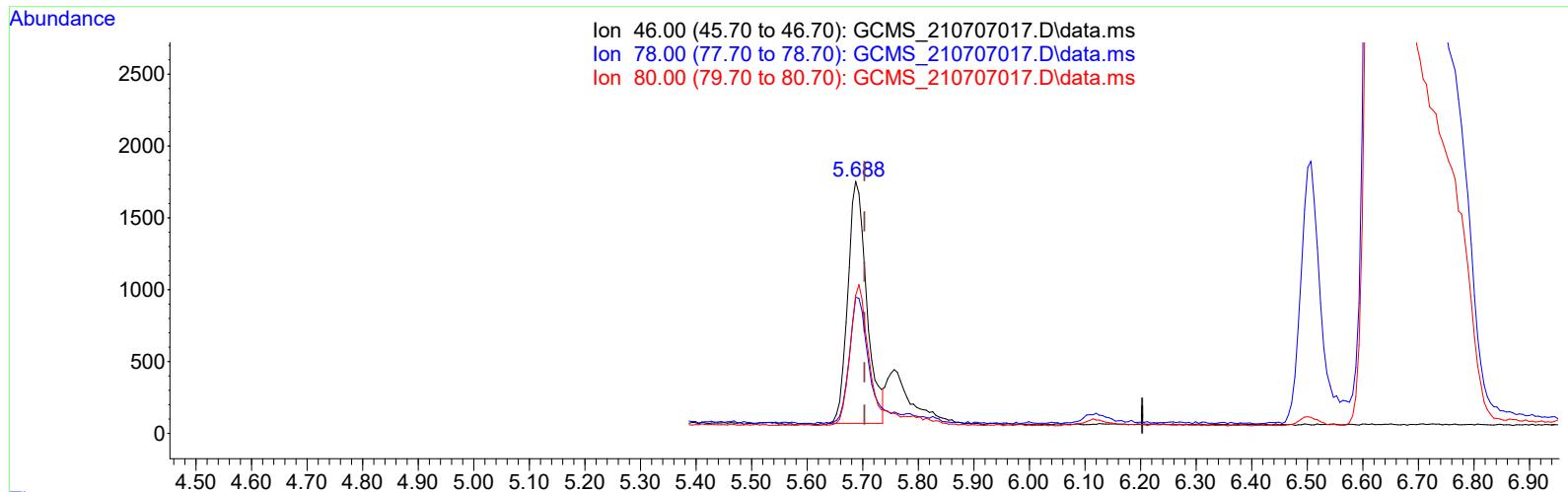
(1) TETRAHYDROFURAN-D8 (I)  
 5.690min (-0.013) 50.00 ug/L

response 32226

Ion	Exp%	Act%
46.00	100.00	100.00
78.00	39.30	62.55#
80.00	41.50	67.59#
0.00	0.00	0.00

Data Path : D:\MassHunter\Data\210707mak\  
 Data File : GCMS\_210707017.D  
 Acq On : 07 Jul 2021 05:22 pm  
 Operator :  
 Sample : E21G004-BSD1  
 Misc :  
 ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jul 08 09:11:34 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210707017.D\data.ms

## (1) TETRAHYDROFURAN-D8 (I)

5.687min (-0.016) 50.00 ug/L m

response 39720

Ion	Exp%	Act%
46.00	100.00	100.00
78.00	39.30	50.74
80.00	41.50	54.84#
0.00	0.00	0.00

REVIEWED  
 By Bruce Gallant at 8:44 am, Aug 17, 2021

Data Path : D:\MassHunter\Data\210707mak\  
Data File : GCMS\_210707024.D  
Acq On : 07 Jul 2021 19:50  
Operator :  
Sample : E21G005-BLK1  
Misc :  
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Jul 08 09:11:48 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration

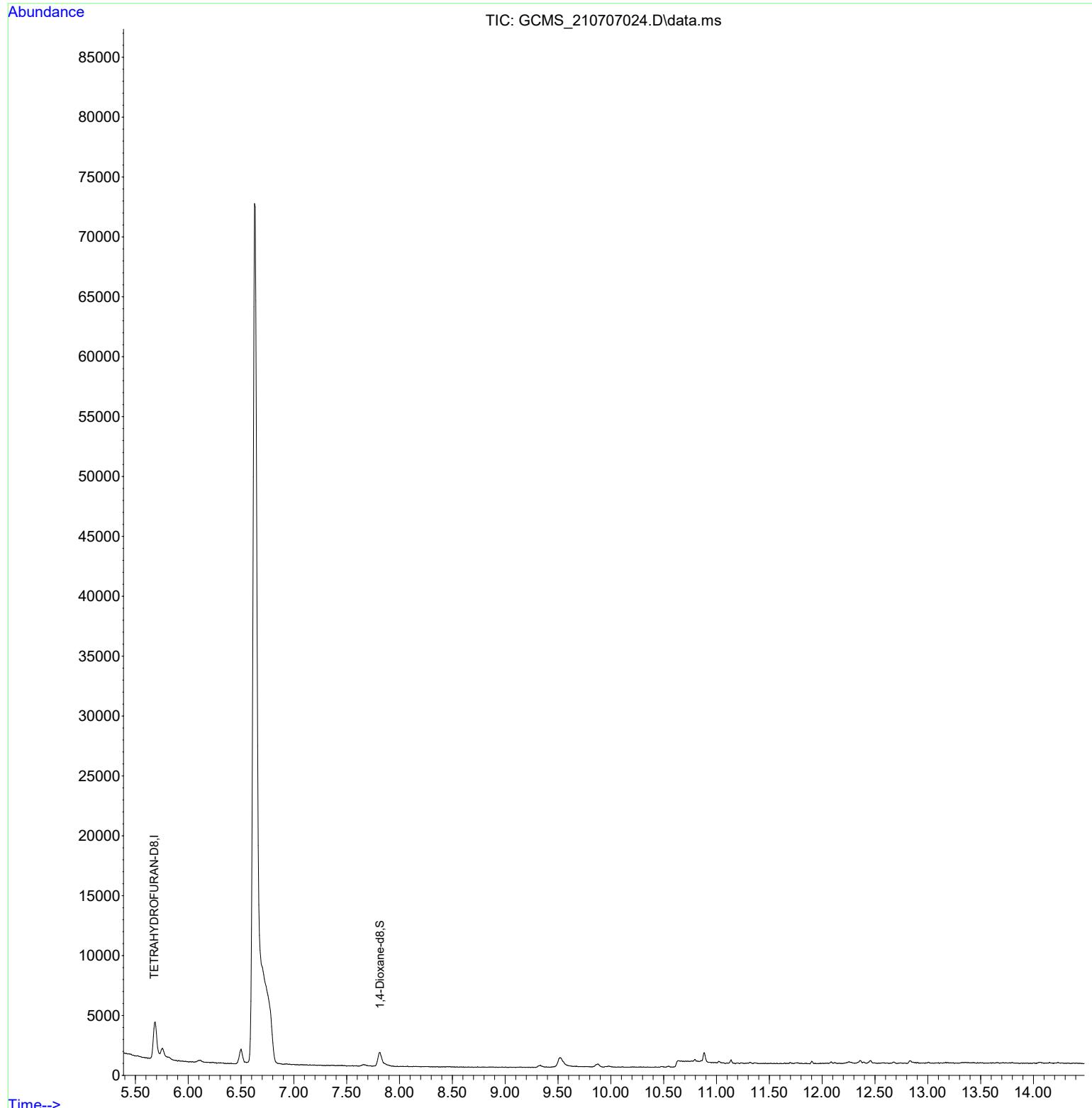
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	5.682	46	35430m	50.00	ug/L	-0.02
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	7.817	96	14574	25.54	ug/L	0.00
<hr/>						
Target Compounds				Qvalue		
3) 1,4-Dioxane	0.000		0	N.D.		
<hr/>						

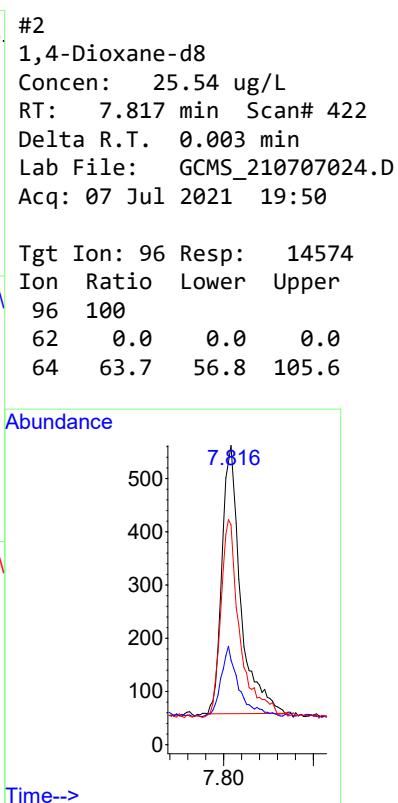
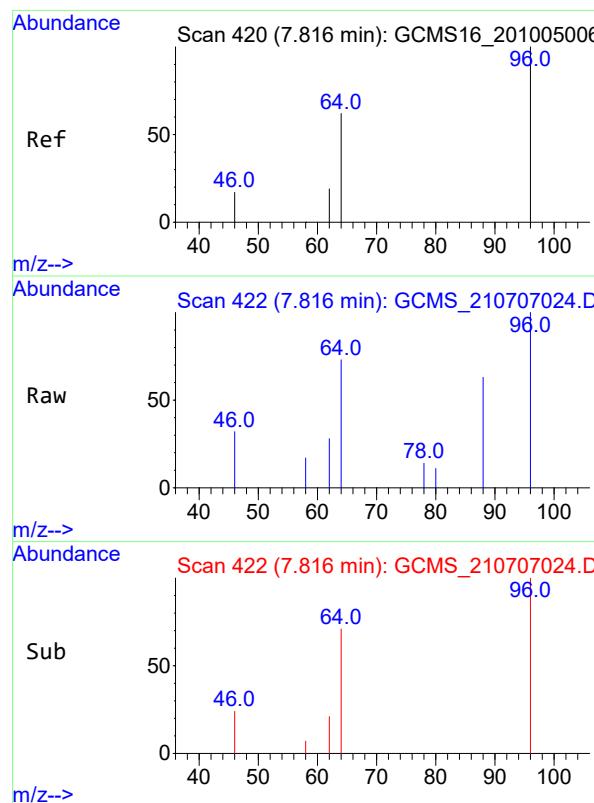
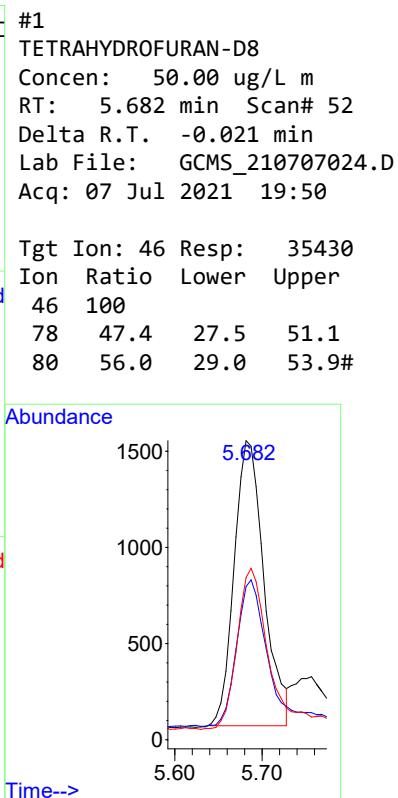
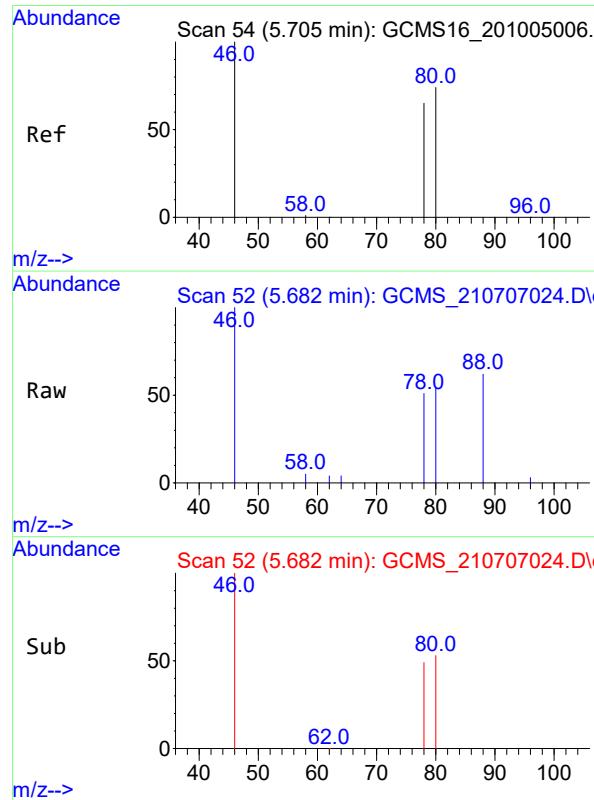
(#) = qualifier out of range (m) = manual integration (+) = signals summed

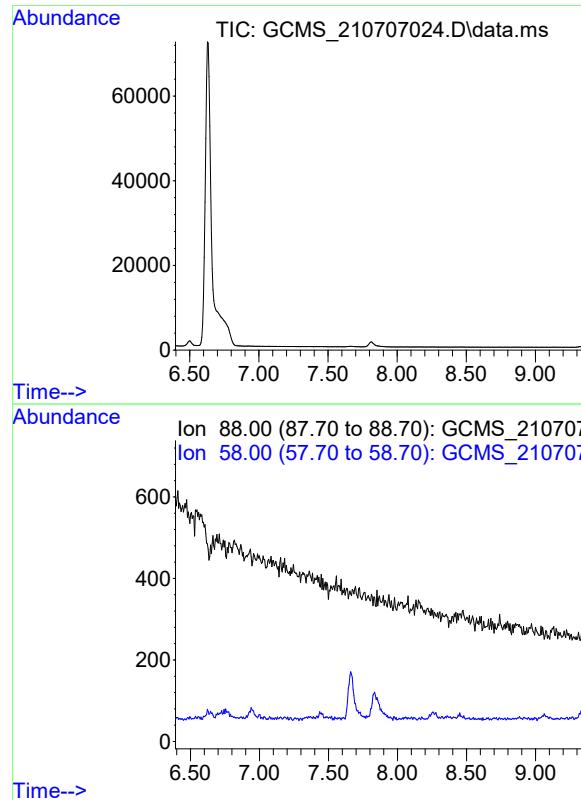


Data Path : D:\MassHunter\Data\210707mak\  
Data File : GCMS\_210707024.D  
Acq On : 07 Jul 2021 19:50  
Operator :  
Sample : E21G005-BLK1  
Misc :  
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Jul 08 09:11:48 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration







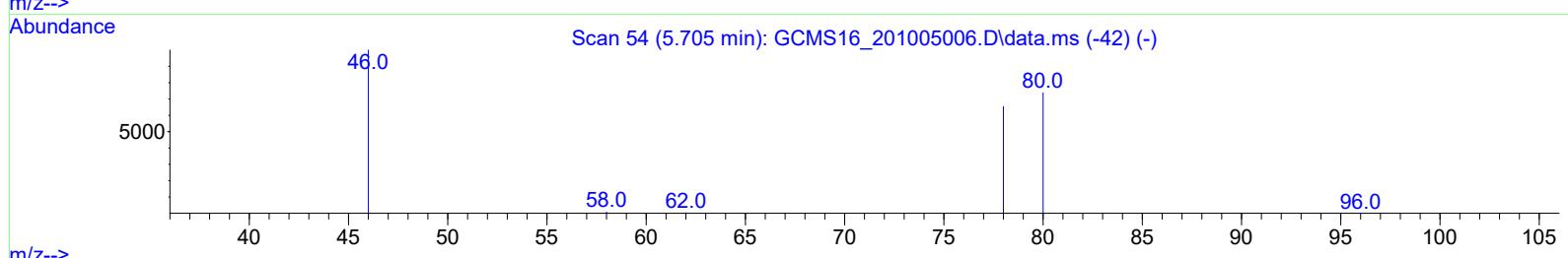
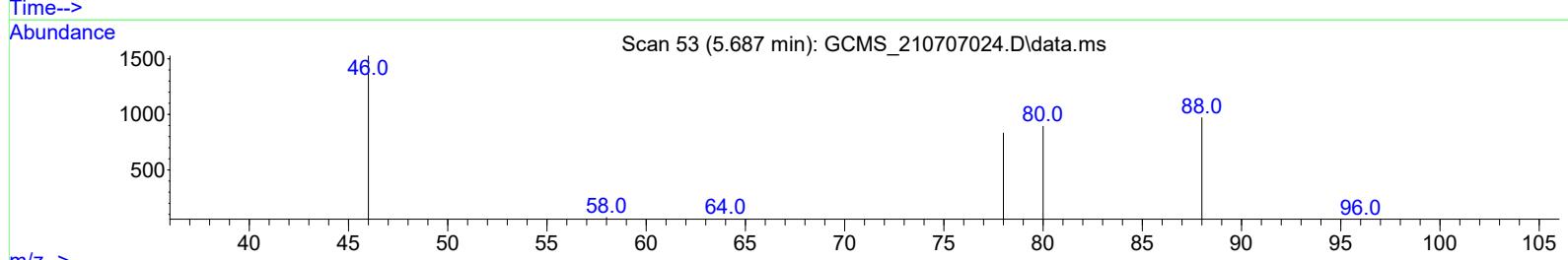
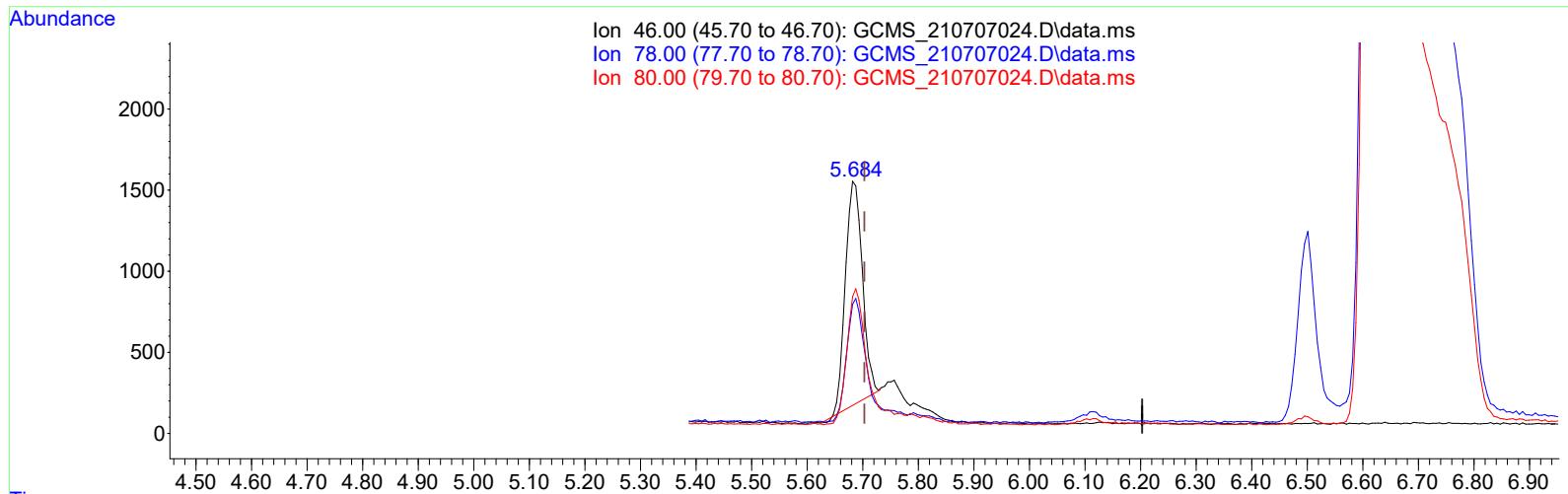
#3  
1,4-Dioxane  
Concen: N.D.  
Expected RT: 7.89 min

Lab File: GCMS\_210707024.D  
Acq: 07 Jul 2021 19:50

Tgt Ion: 88  
Sig Exp Ratio  
88 100  
58 103.6

Data Path : D:\MassHunter\GCMS\1\data\210707mak\  
 Data File : GCMS\_210707024.D  
 Acq On : 07 Jul 2021 07:50 pm  
 Operator :  
 Sample : E21G005-BLK1  
 Misc :  
 ALS Vial : 15 Sample Multiplier: 1

Quant Time: Jul 08 09:11:48 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210707024.D\data.ms

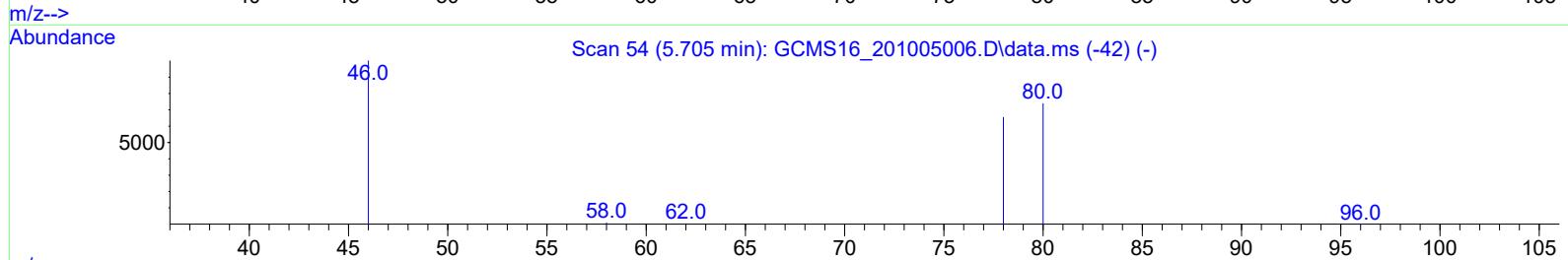
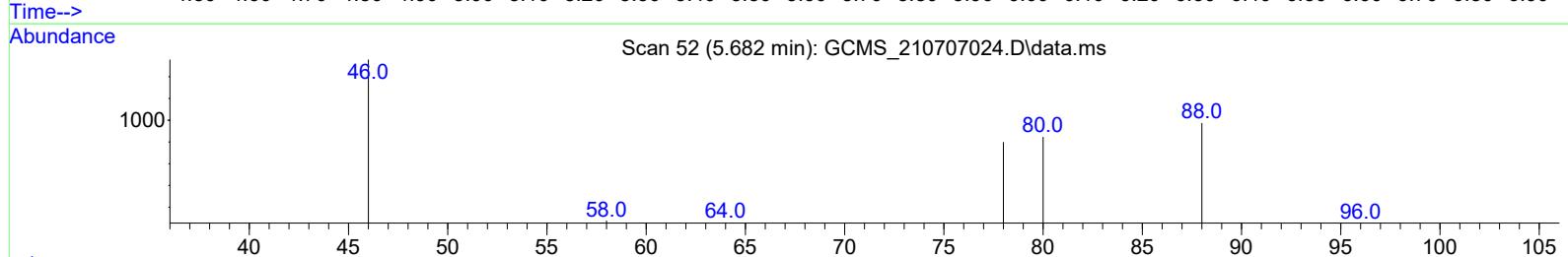
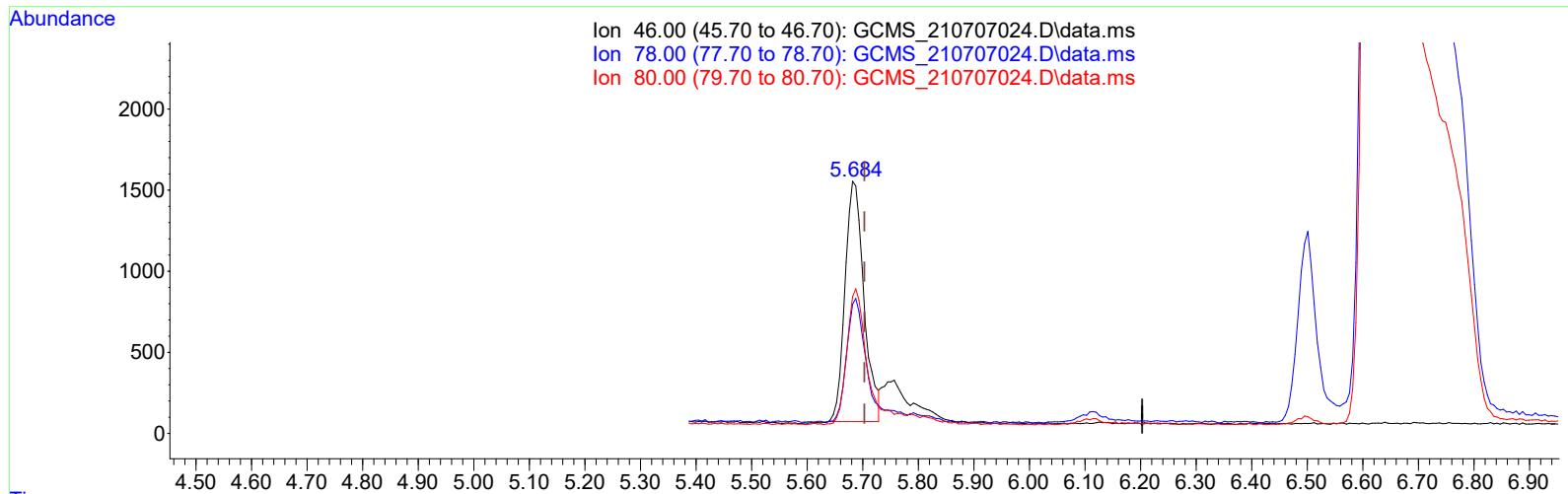
(1) TETRAHYDROFURAN-D8 (I)  
 5.686min (-0.017) 50.00 ug/L

response 28946

Ion	Exp%	Act%
46.00	100.00	100.00
78.00	39.30	57.97#
80.00	41.50	68.58#
0.00	0.00	0.00

Data Path : D:\MassHunter\Data\210707mak\  
 Data File : GCMS\_210707024.D  
 Acq On : 07 Jul 2021 19:50  
 Operator :  
 Sample : E21G005-BLK1  
 Misc :  
 ALS Vial : 15 Sample Multiplier: 1

Quant Time: Jul 08 09:11:48 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210707024.D\data.ms

(1) TETRAHYDROFURAN-D8 (I)  
 5.682min (-0.021) 50.00 ug/L m

response 35430

Ion	Exp%	Act%
46.00	100.00	100.00
78.00	39.30	47.36
80.00	41.50	56.03#
0.00	0.00	0.00

REVIEWED  
 By Bruce Gallant at 8:45 am, Aug 17, 2021

Data Path : D:\MassHunter\Data\210707mak\  
Data File : GCMS\_210707025.D  
Acq On : 07 Jul 2021 20:12  
Operator :  
Sample : E21G005-MRL1  
Misc :  
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Jul 08 09:11:50 2021

Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M

Quant Title : Initial Calibration of 1,4-Dioxane 021317

QLast Update : Thu Jun 24 15:10:43 2021

Response via : Initial Calibration

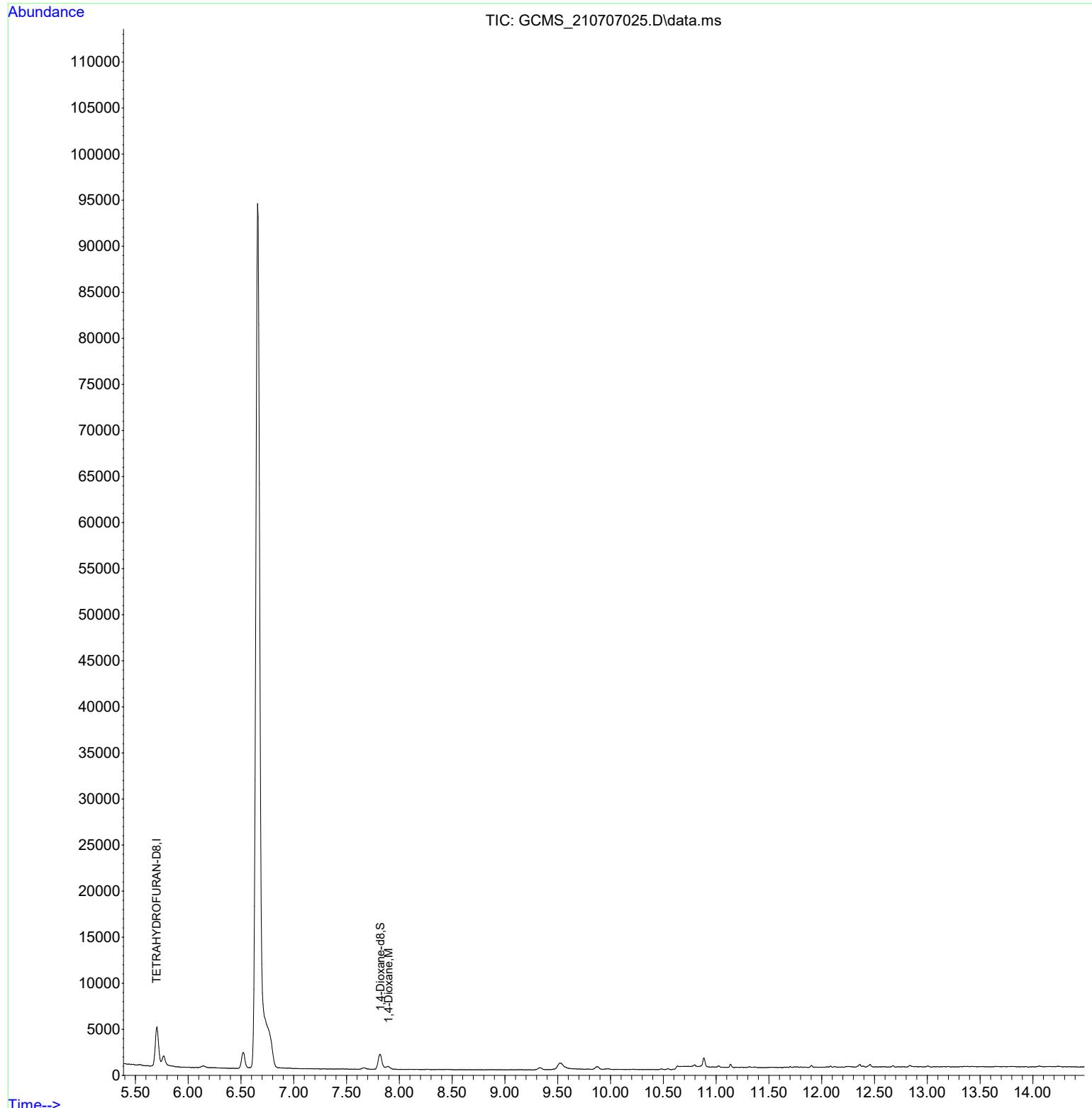
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	5.705	46	46839m	50.00	ug/L	0.00
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	7.821	96	18818	24.94	ug/L	0.00
<hr/>						
Target Compounds				Qvalue		
3) 1,4-Dioxane	7.897	88	3382m	4.26	ug/L	
<hr/>						

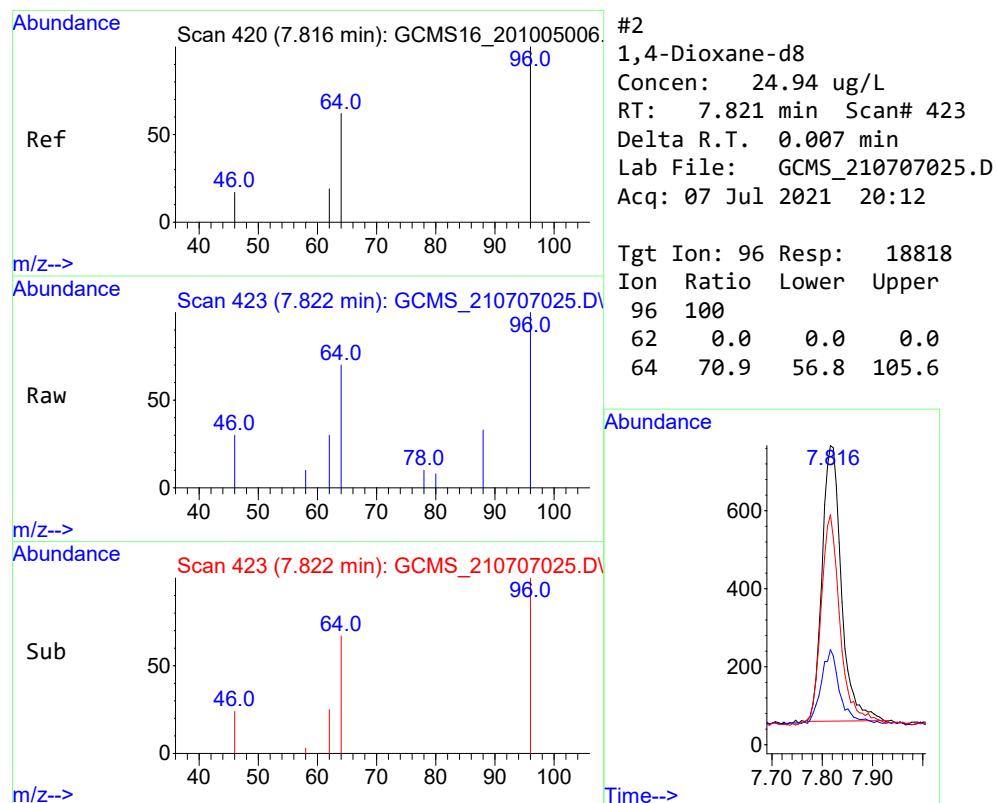
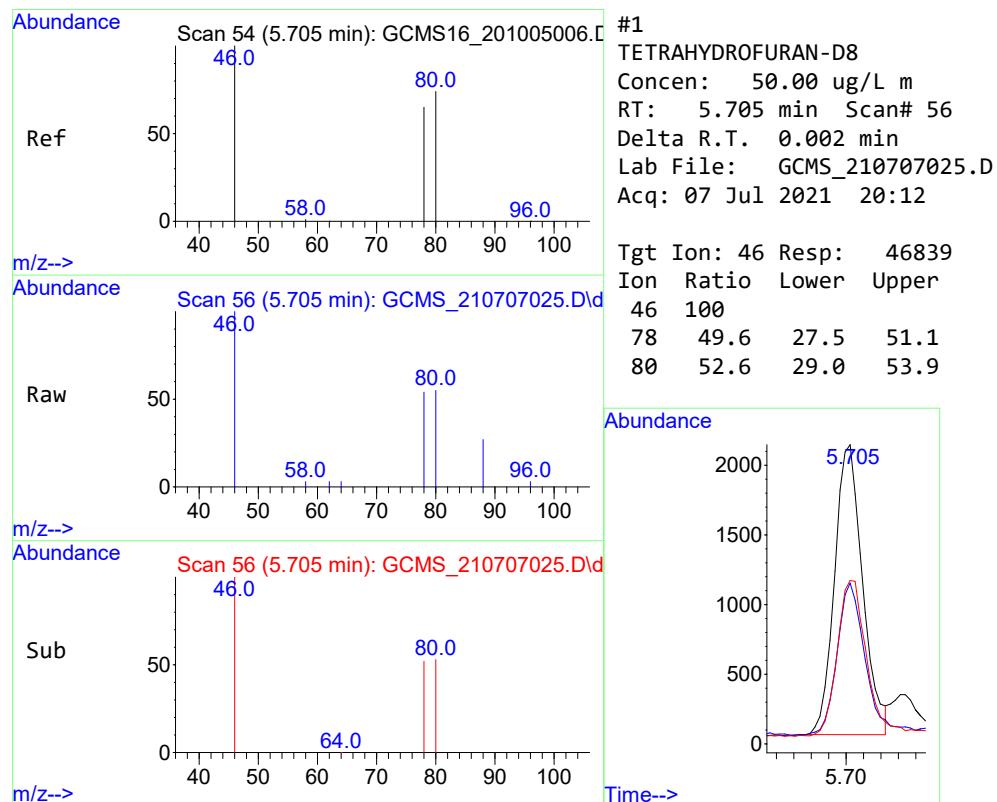
(#) = qualifier out of range (m) = manual integration (+) = signals summed

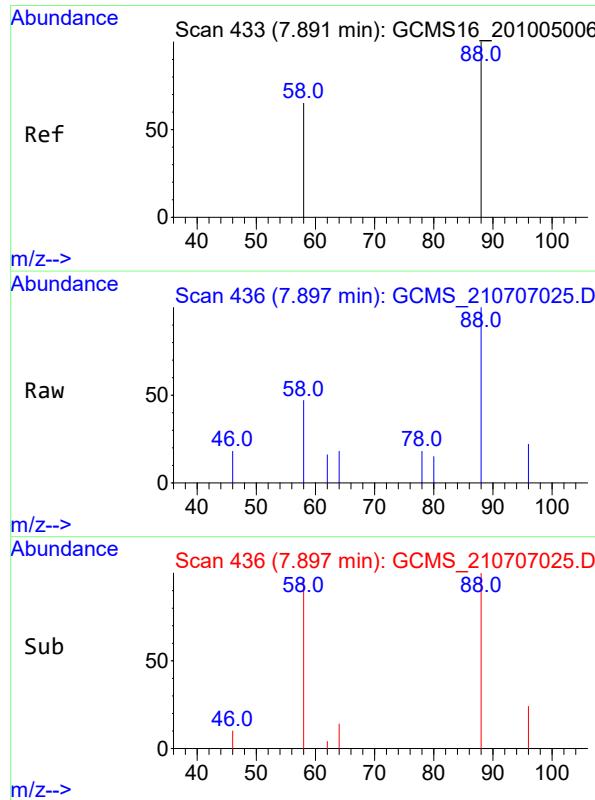


Data Path : D:\MassHunter\Data\210707mak\  
Data File : GCMS\_210707025.D  
Acq On : 07 Jul 2021 20:12  
Operator :  
Sample : E21G005-MRL1  
Misc :  
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Jul 08 09:11:50 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration

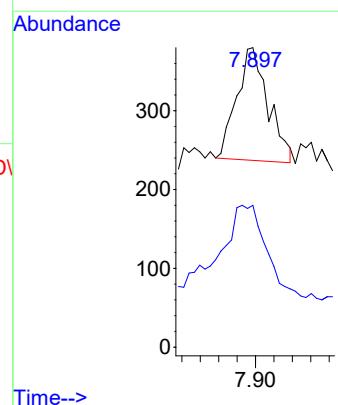






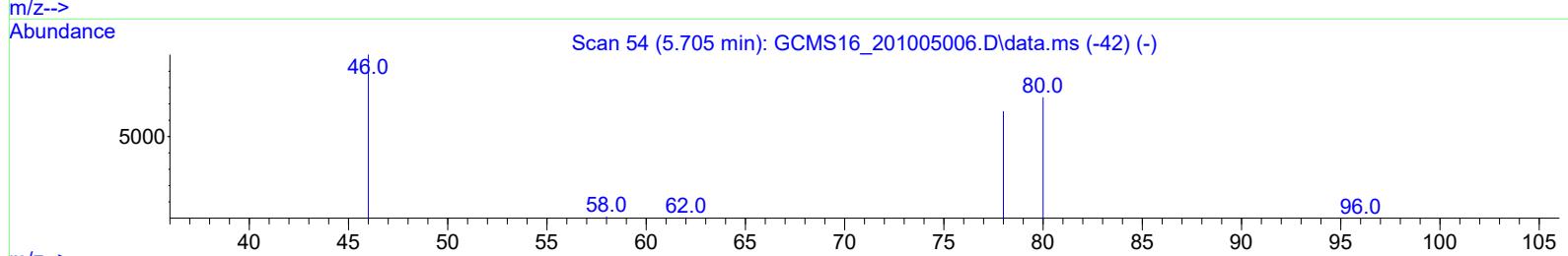
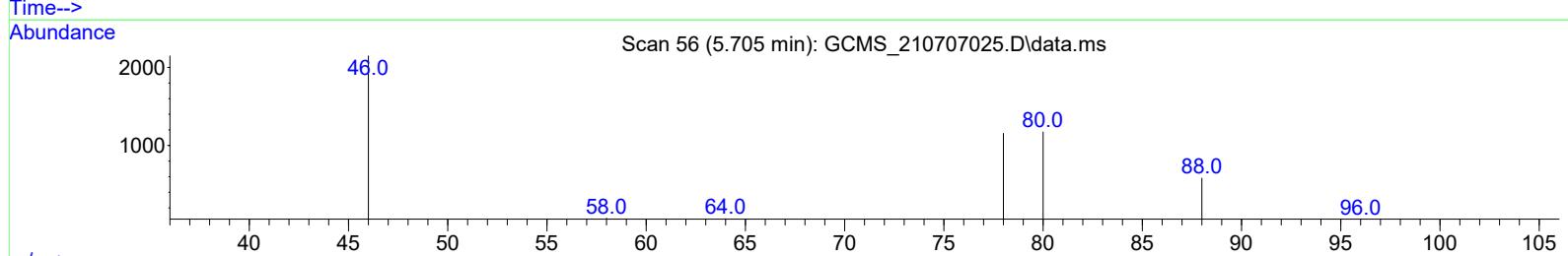
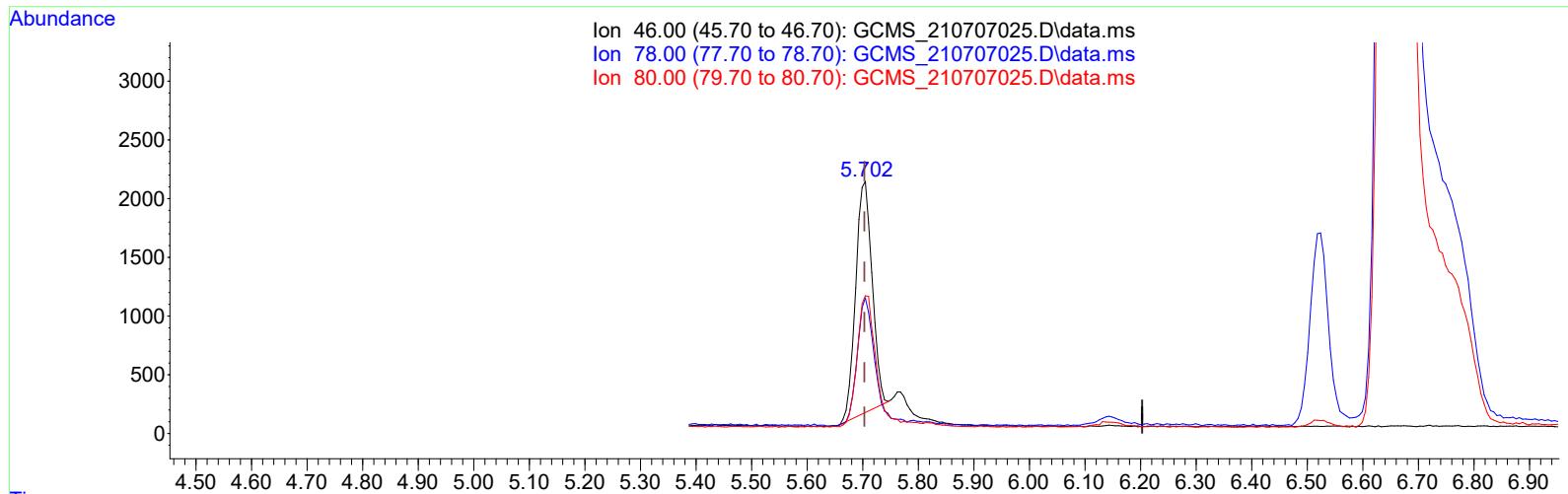
#3  
 1,4-Dioxane  
 Concen: 4.26 ug/L m  
 RT: 7.897 min Scan# 436  
 Delta R.T. 0.005 min  
 Lab File: GCMS\_210707025.D  
 Acq: 07 Jul 2021 20:12

Tgt Ion: 88 Resp: 3382  
 Ion Ratio Lower Upper  
 88 100  
 58 0.0 72.5 134.7#



Data Path : D:\MassHunter\GCMS\1\data\210707mak\  
 Data File : GCMS\_210707025.D  
 Acq On : 07 Jul 2021 08:12 pm  
 Operator :  
 Sample : E21G005-MRL1  
 Misc :  
 ALS Vial : 16 Sample Multiplier: 1

Quant Time: Jul 08 09:11:50 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210707025.D\data.ms

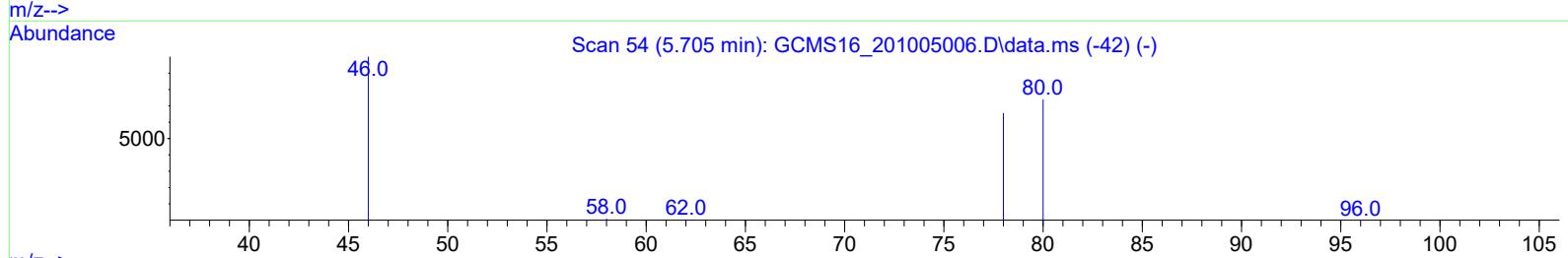
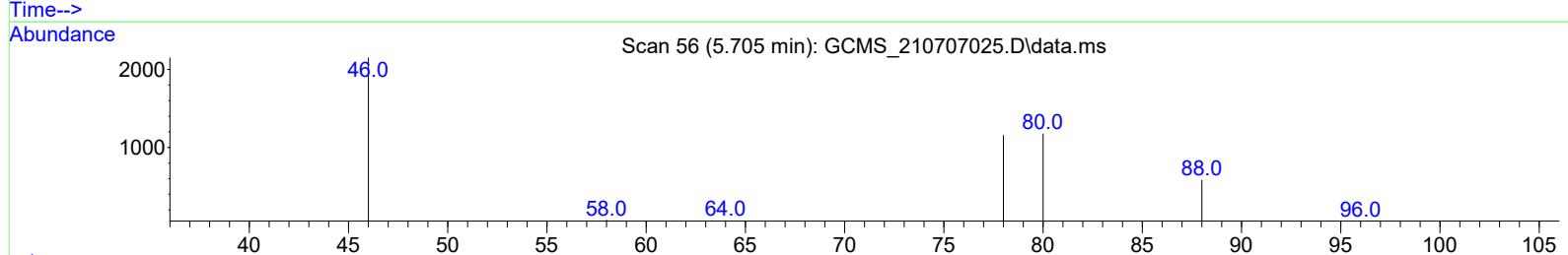
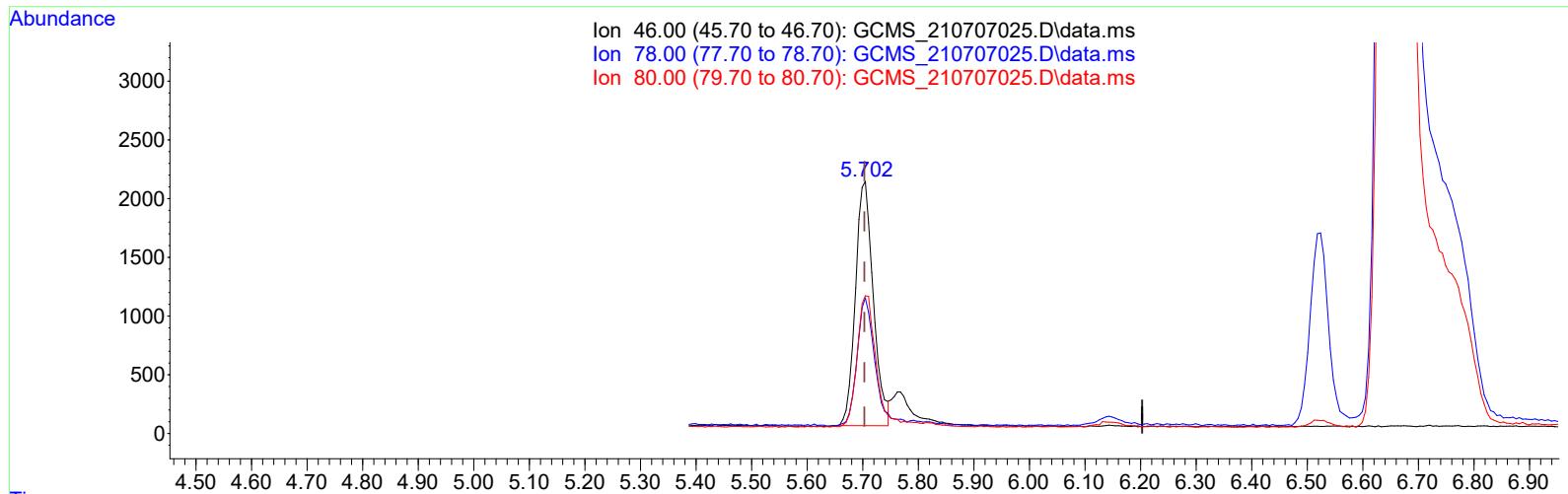
(1) TETRAHYDROFURAN-D8 (I)  
 5.705min (+ 0.002) 50.00 ug/L

response 40395

Ion	Exp%	Act%
46.00	100.00	100.00
78.00	39.30	57.56#
80.00	41.50	60.99#
0.00	0.00	0.00

Data Path : D:\MassHunter\Data\210707mak\  
 Data File : GCMS\_210707025.D  
 Acq On : 07 Jul 2021 08:12 pm  
 Operator :  
 Sample : E21G005-MRL1  
 Misc :  
 ALS Vial : 16 Sample Multiplier: 1

Quant Time: Jul 08 09:11:50 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210707025.D\data.ms

## (1) TETRAHYDROFURAN-D8 (I)

5.705min (+ 0.002) 50.00 ug/L m

response 46839

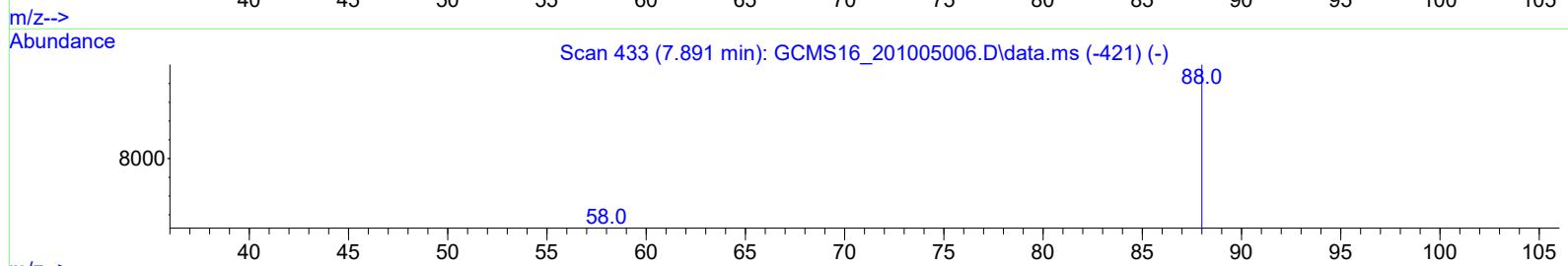
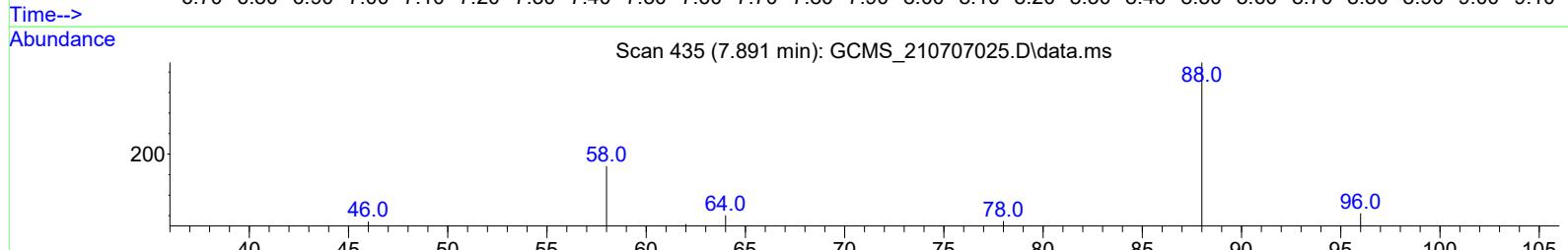
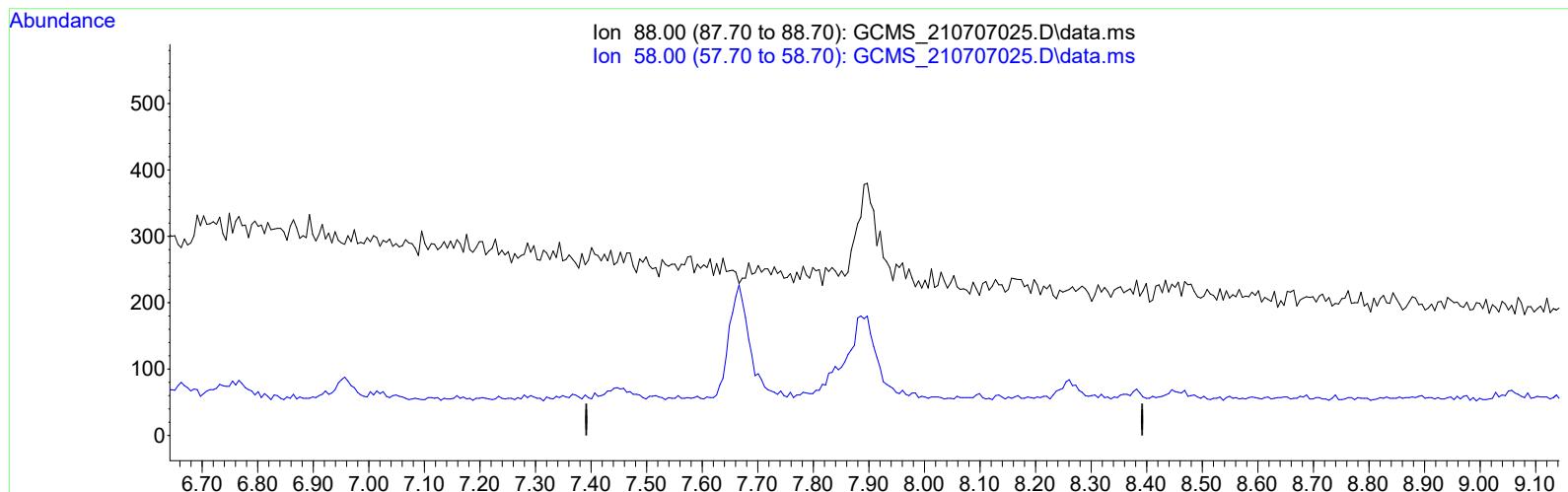
Ion	Exp%	Act%
46.00	100.00	100.00
78.00	39.30	49.64
80.00	41.50	52.60
0.00	0.00	0.00

**REVIEWED**

By Bruce Gallant at 8:45 am, Aug 17, 2021

Data Path : D:\MassHunter\GCMS\1\data\210707mak\  
 Data File : GCMS\_210707025.D  
 Acq On : 07 Jul 2021 08:12 pm  
 Operator :  
 Sample : E21G005-MRL1  
 Misc :  
 ALS Vial : 16 Sample Multiplier: 1

Quant Time: Jul 08 09:11:50 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210707025.D\data.ms

(3) 1,4-Dioxane (M)

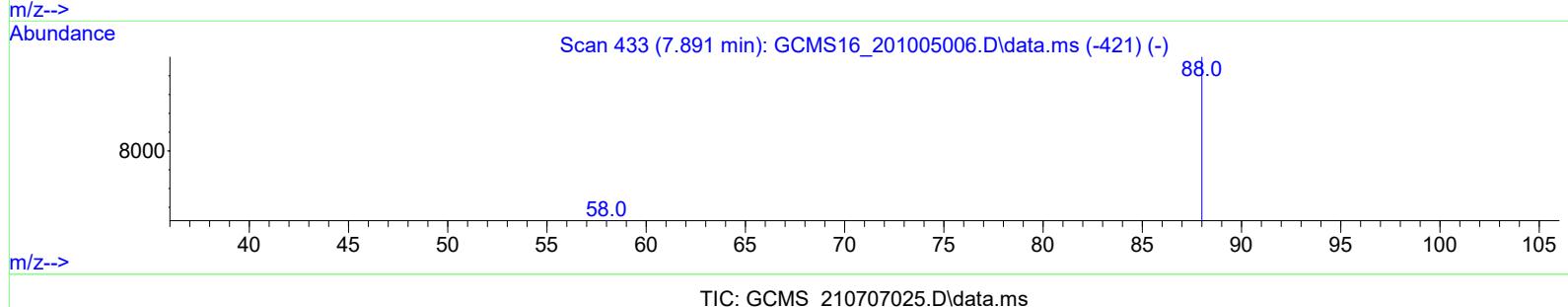
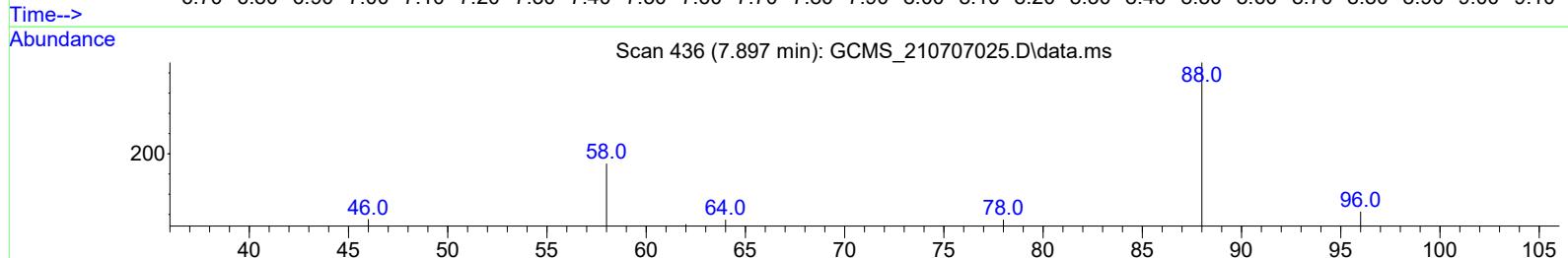
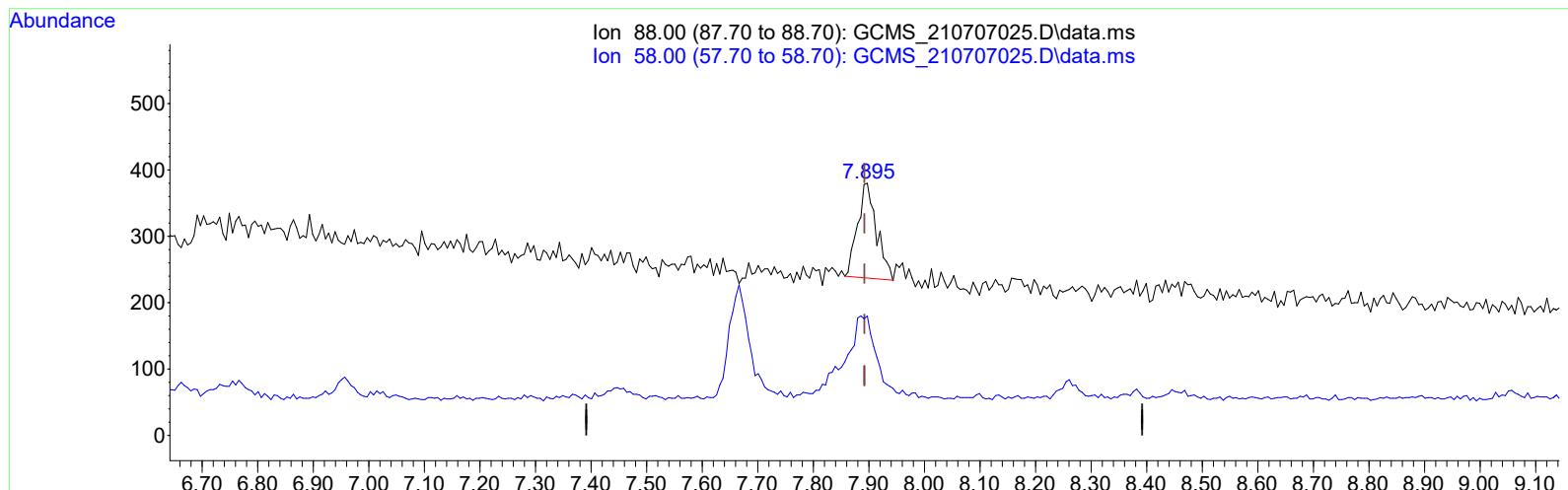
7.892min (-7.892) 0.00 ug/L

response 0

Ion	Exp%	Act%
88.00	100.00	0.00
58.00	103.60	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : D:\MassHunter\Data\210707mak\  
 Data File : GCMS\_210707025.D  
 Acq On : 07 Jul 2021 08:12 pm  
 Operator :  
 Sample : E21G005-MRL1  
 Misc :  
 ALS Vial : 16 Sample Multiplier: 1

Quant Time: Jul 08 09:11:50 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



## (3) 1,4-Dioxane (M)

7.897min (+ 0.005) 4.26 ug/L m

response 3382

Ion	Exp%	Act%
88.00	100.00	100.00
58.00	103.60	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

REVIEWED  
 By Bruce Gallant at 8:46 am, Aug 17, 2021

Data Path : D:\MassHunter\Data\210707mak\  
Data File : GCMS\_210707026.D  
Acq On : 07 Jul 2021 20:33  
Operator :  
Sample : E21G005-BS1  
Misc :  
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Jul 08 09:11:52 2021

Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M

Quant Title : Initial Calibration of 1,4-Dioxane 021317

QLast Update : Thu Jun 24 15:10:43 2021

Response via : Initial Calibration

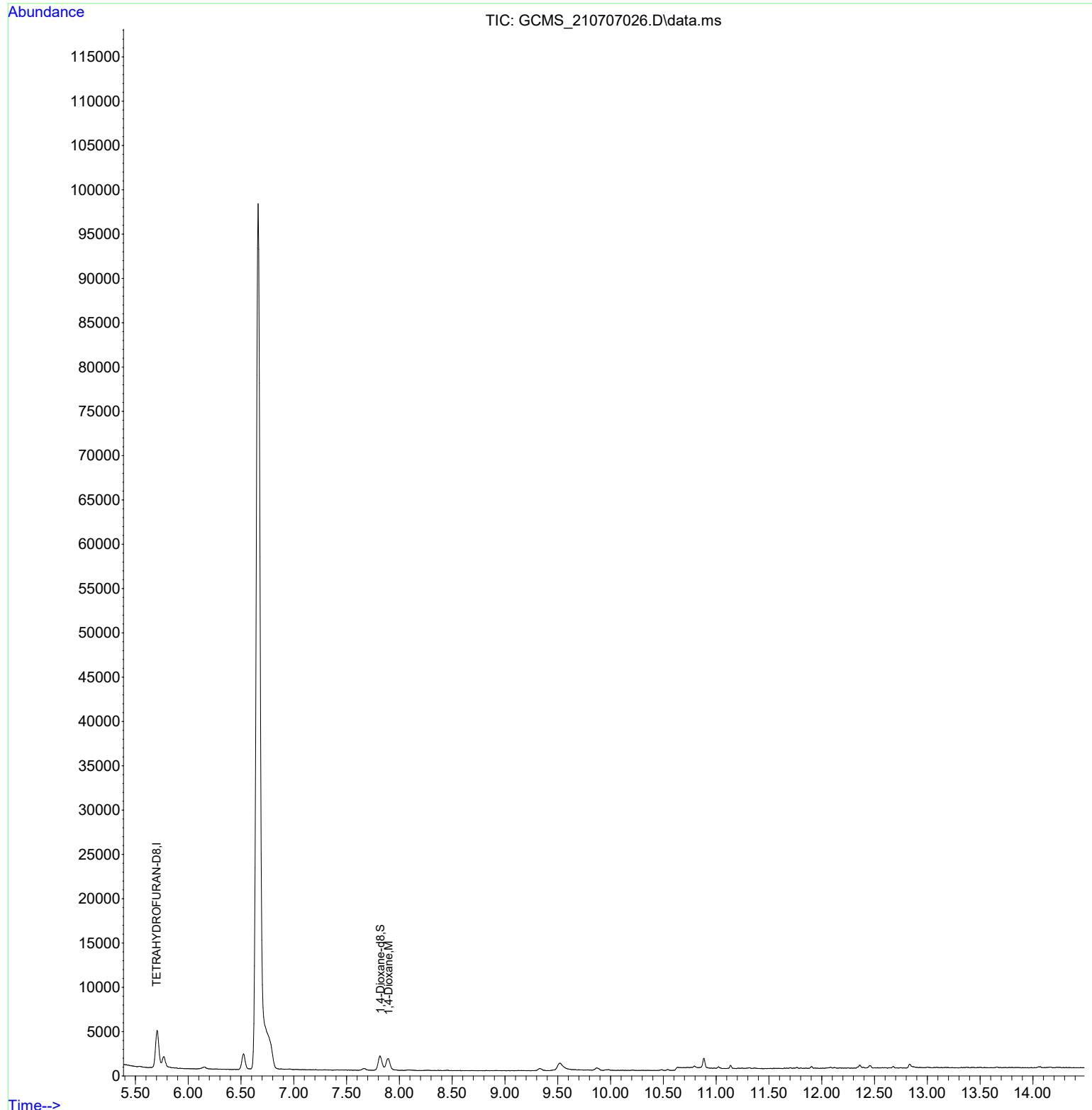
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	5.705	46	44426m	50.00	ug/L	0.00
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	7.820	96	17739	24.79	ug/L	0.00
<hr/>						
Target Compounds				Qvalue		
3) 1,4-Dioxane	7.897	88	17544m	23.28	ug/L	
<hr/>						

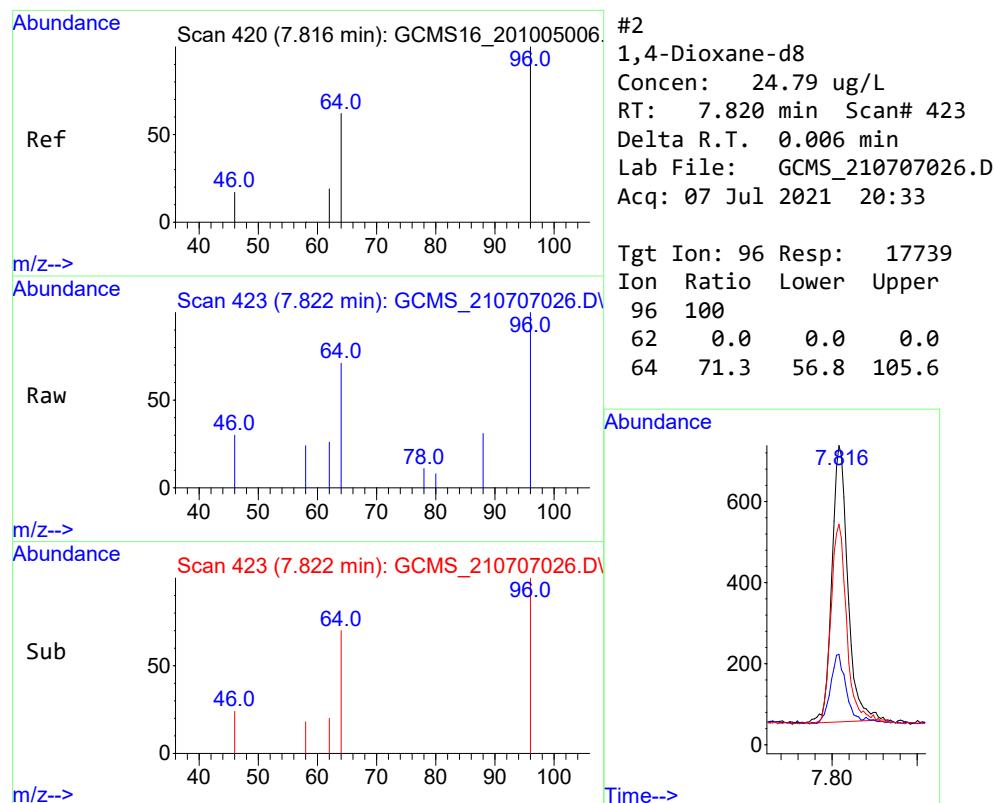
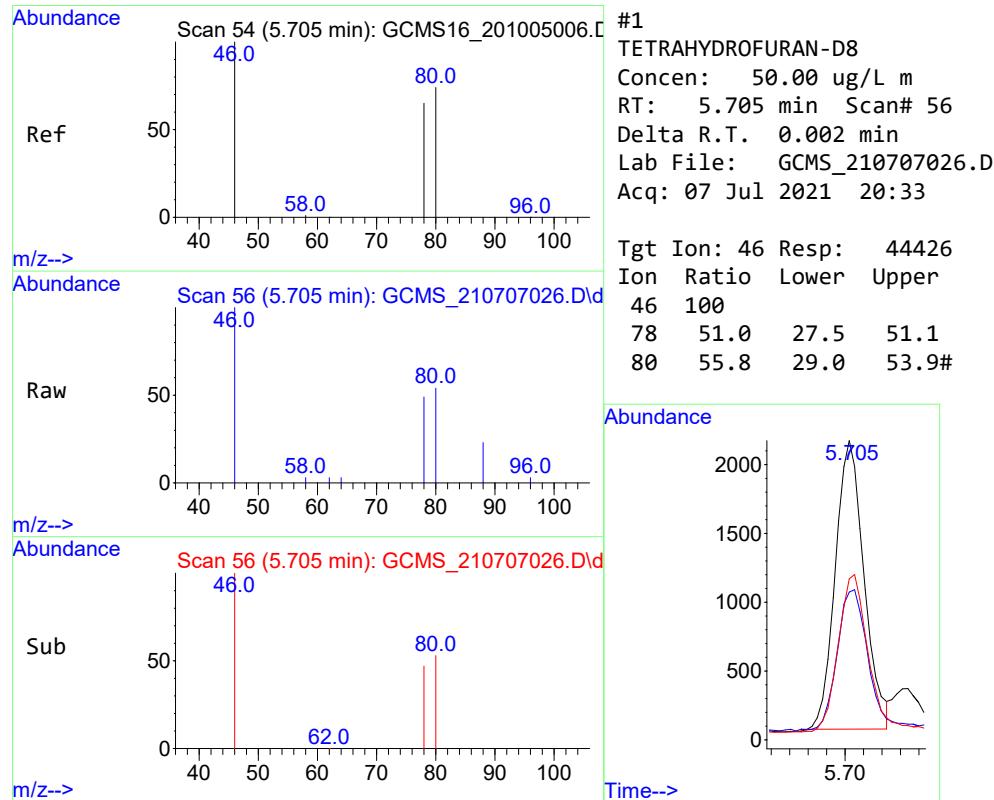
(#) = qualifier out of range (m) = manual integration (+) = signals summed

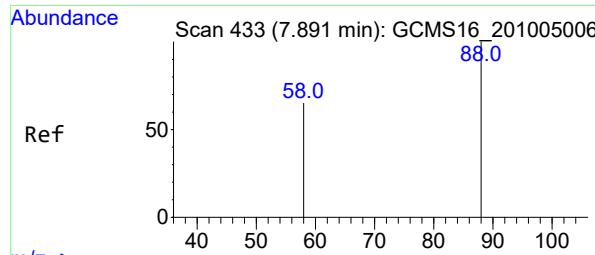
**REVIEWED**  
By Bruce Gallant at 8:46 am, Aug 17, 2021

Data Path : D:\MassHunter\Data\210707mak\  
Data File : GCMS\_210707026.D  
Acq On : 07 Jul 2021 20:33  
Operator :  
Sample : E21G005-BS1  
Misc :  
ALS Vial : 17 Sample Multiplier: 1

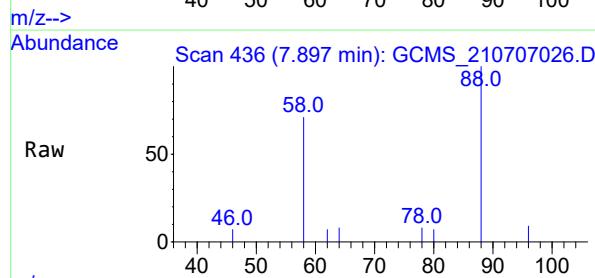
Quant Time: Jul 08 09:11:52 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration



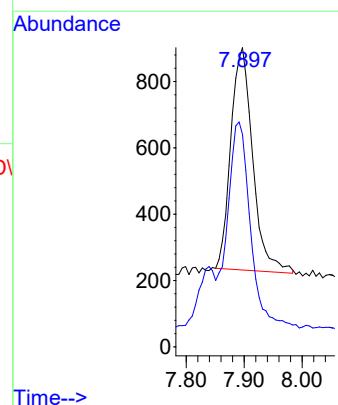
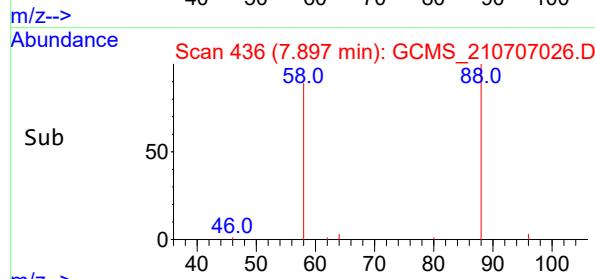




#3  
1,4-Dioxane  
Concen: 23.28 ug/L m  
RT: 7.897 min Scan# 436  
Delta R.T. 0.005 min  
Lab File: GCMS\_210707026.D  
Acq: 07 Jul 2021 20:33

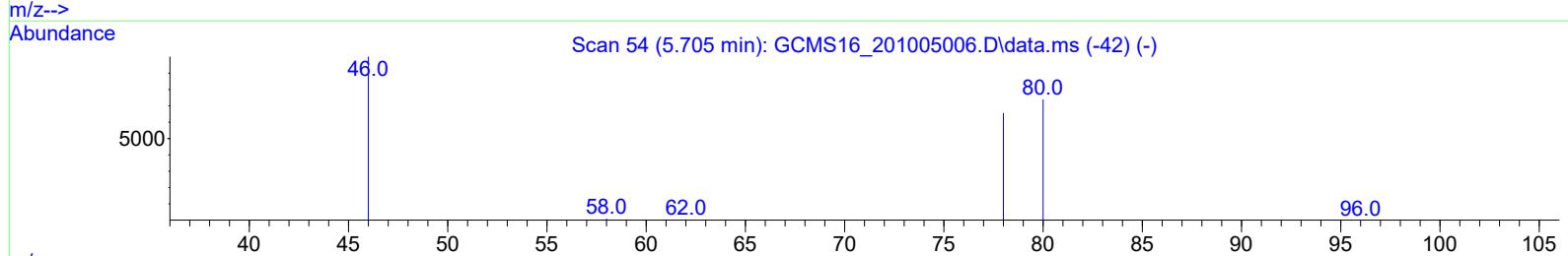
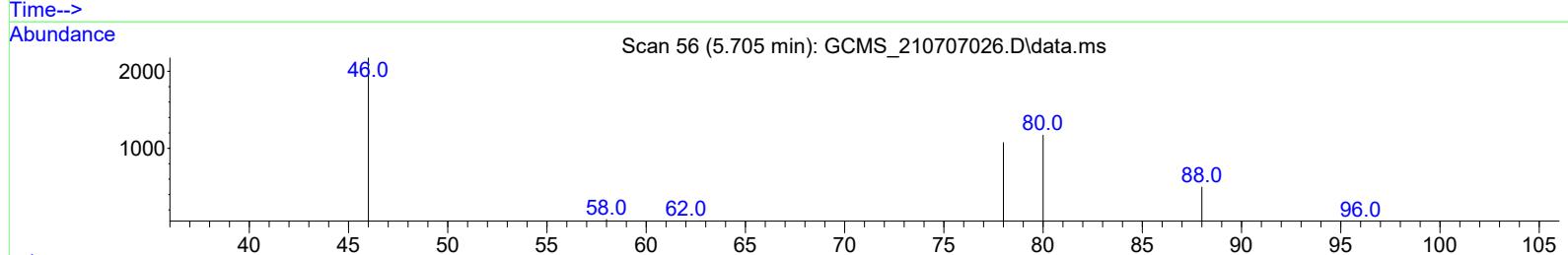
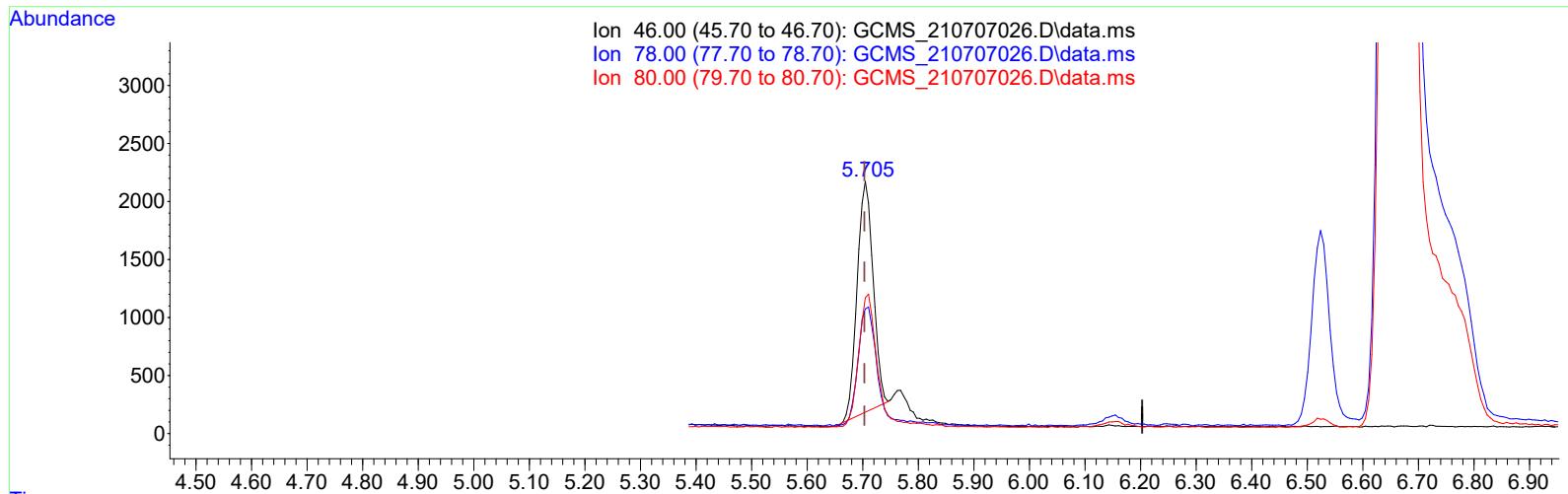


Tgt Ion: 88 Resp: 17544  
Ion Ratio Lower Upper  
88 100  
58 0.0 72.5 134.7#



Data Path : D:\MassHunter\GCMS\1\data\210707mak\  
 Data File : GCMS\_210707026.D  
 Acq On : 07 Jul 2021 08:33 pm  
 Operator :  
 Sample : E21G005-BS1  
 Misc :  
 ALS Vial : 17 Sample Multiplier: 1

Quant Time: Jul 08 09:11:52 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210707026.D\data.ms

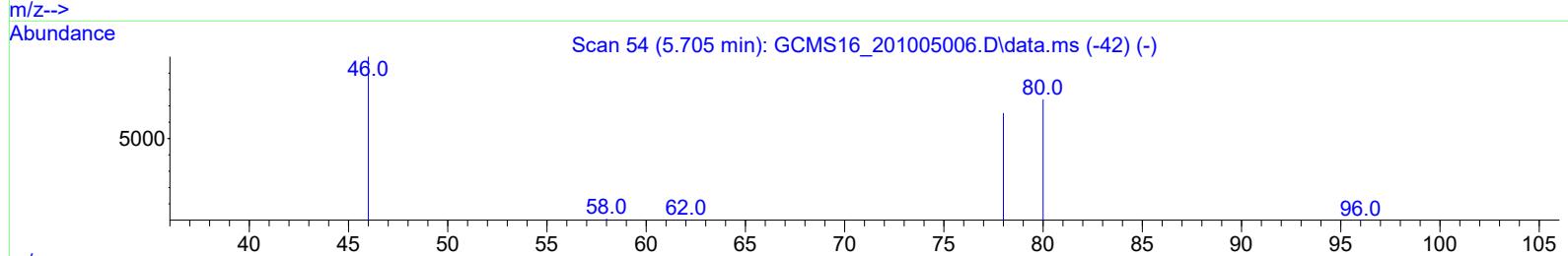
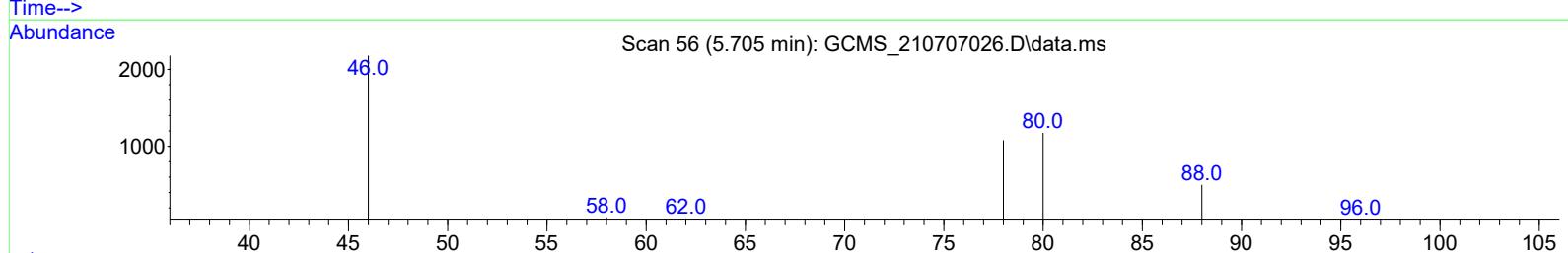
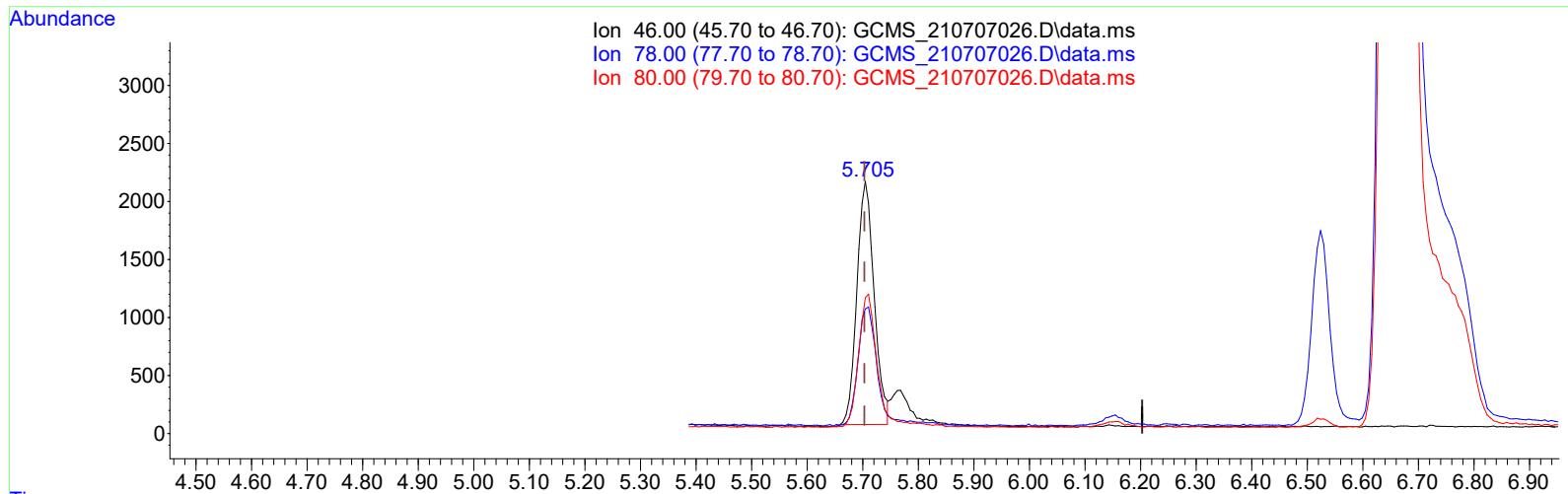
(1) TETRAHYDROFURAN-D8 (I)  
 5.707min (+ 0.004) 50.00 ug/L

response 39545

Ion	Exp%	Act%
46.00	100.00	100.00
78.00	39.30	57.30#
80.00	41.50	62.65#
0.00	0.00	0.00

Data Path : D:\MassHunter\Data\210707mak\  
 Data File : GCMS\_210707026.D  
 Acq On : 07 Jul 2021 08:33 pm  
 Operator :  
 Sample : E21G005-BS1  
 Misc :  
 ALS Vial : 17 Sample Multiplier: 1

Quant Time: Jul 08 09:11:52 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210707026.D\data.ms

## (1) TETRAHYDROFURAN-D8 (I)

5.705min (+ 0.002) 50.00 ug/L m

response 44426

Ion	Exp%	Act%
46.00	100.00	100.00
78.00	39.30	51.01
80.00	41.50	55.77#
0.00	0.00	0.00

REVIEWED  
By Bruce Gallant at 8:47 am, Aug 17, 2021

Data Path : D:\MassHunter\Data\210707mak\  
Data File : GCMS\_210707027.D  
Acq On : 07 Jul 2021 20:54  
Operator :  
Sample : E21G005-BSD1  
Misc :  
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Jul 08 09:11:54 2021

Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M

Quant Title : Initial Calibration of 1,4-Dioxane 021317

QLast Update : Thu Jun 24 15:10:43 2021

Response via : Initial Calibration

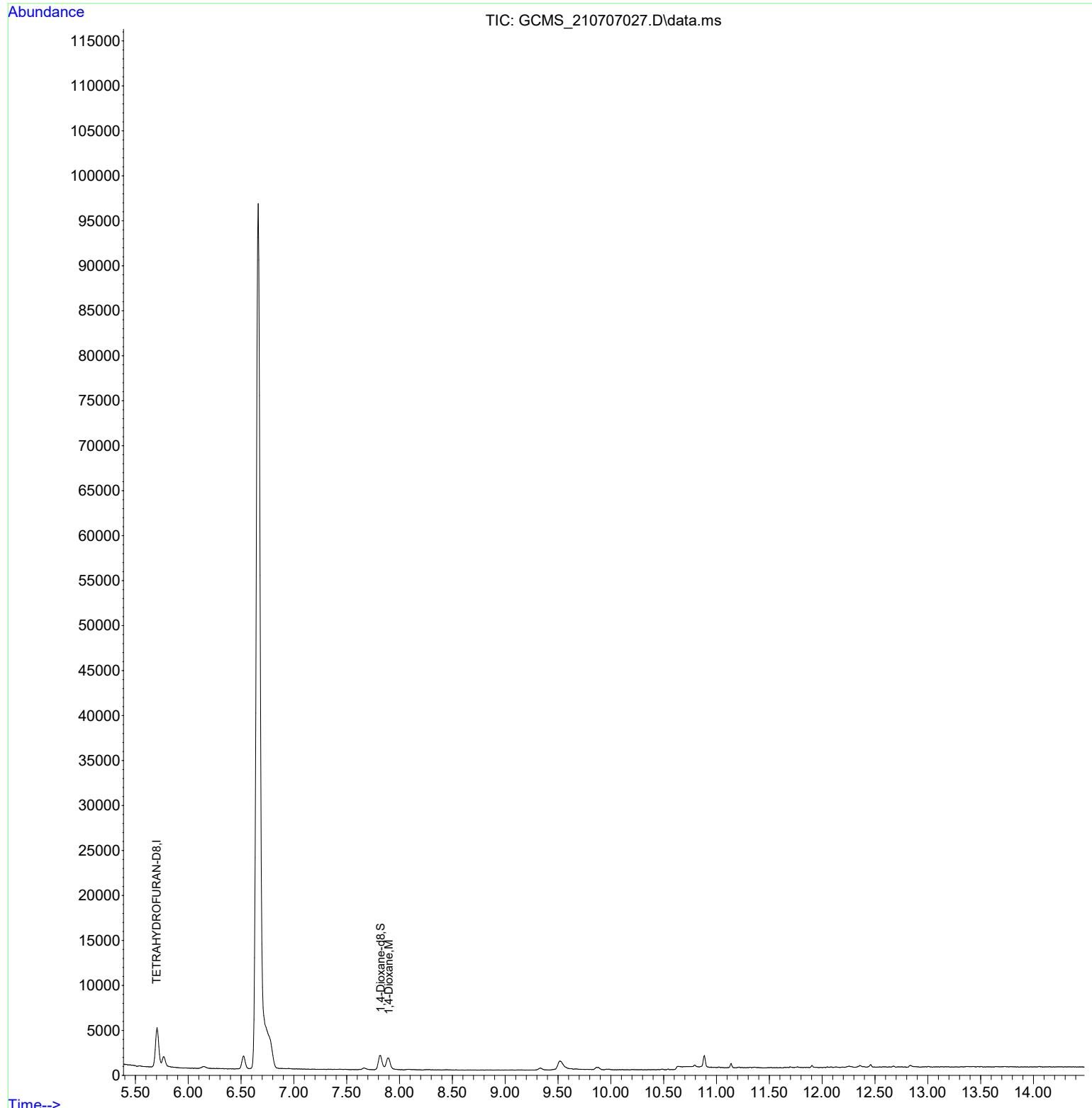
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	5.705	46	47646m	50.00	ug/L	0.00
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	7.819	96	17515	22.82	ug/L	0.00
<hr/>						
Target Compounds				Qvalue		
3) 1,4-Dioxane	7.898	88	17936	22.20	ug/L	96
<hr/>						

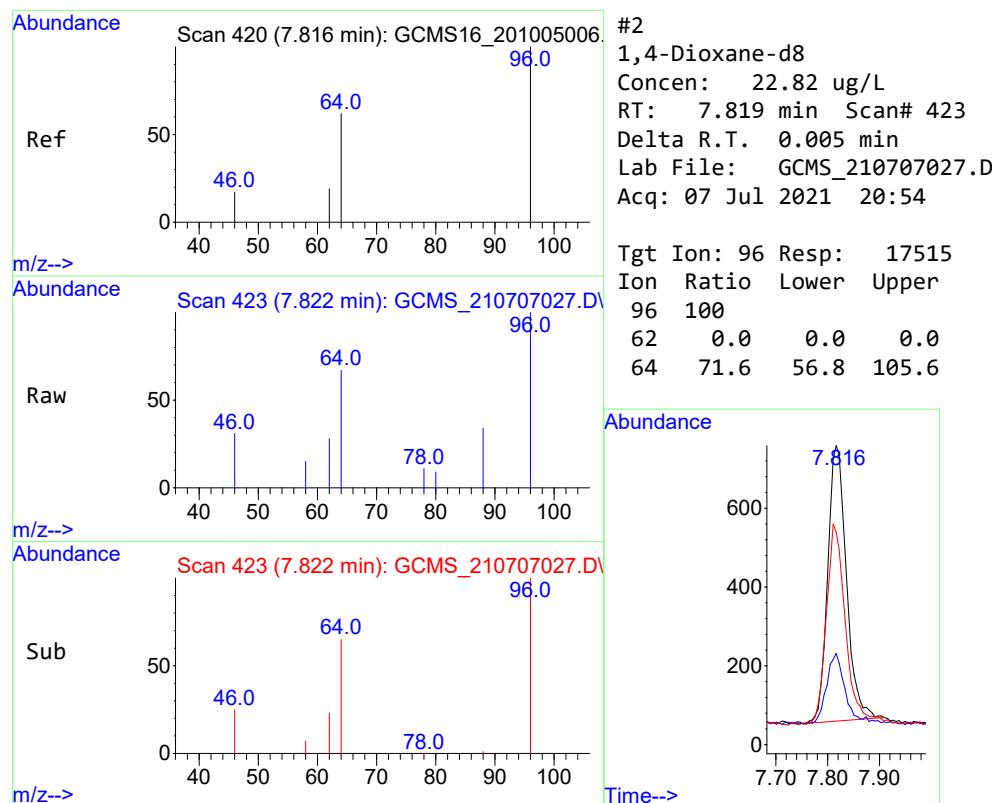
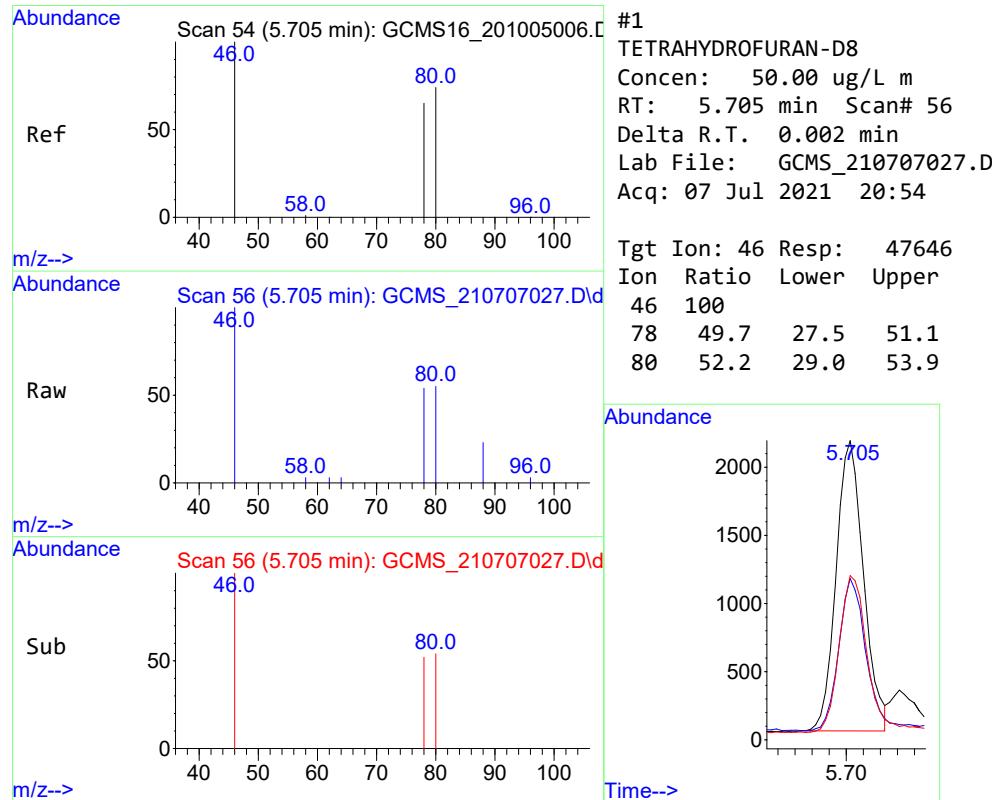
(#) = qualifier out of range (m) = manual integration (+) = signals summed

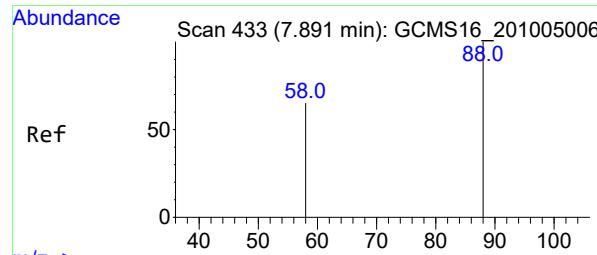
**REVIEWED**  
By Bruce Gallant at 8:47 am, Aug 17, 2021

Data Path : D:\MassHunter\Data\210707mak\  
Data File : GCMS\_210707027.D  
Acq On : 07 Jul 2021 20:54  
Operator :  
Sample : E21G005-BSD1  
Misc :  
ALS Vial : 18 Sample Multiplier: 1

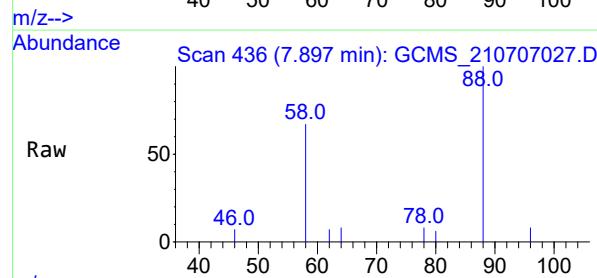
Quant Time: Jul 08 09:11:54 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration



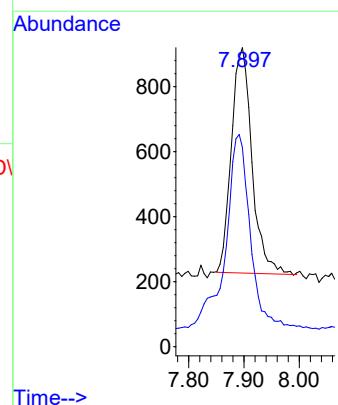
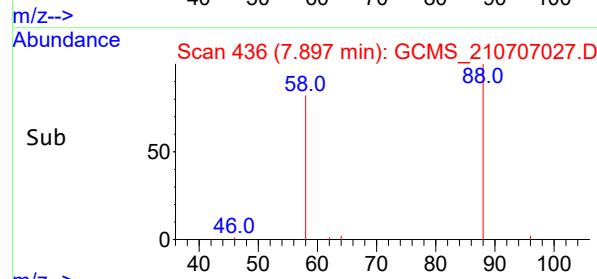




#3  
1,4-Dioxane  
Concen: 22.20 ug/L  
RT: 7.898 min Scan# 436  
Delta R.T. 0.006 min  
Lab File: GCMS\_210707027.D  
Acq: 07 Jul 2021 20:54

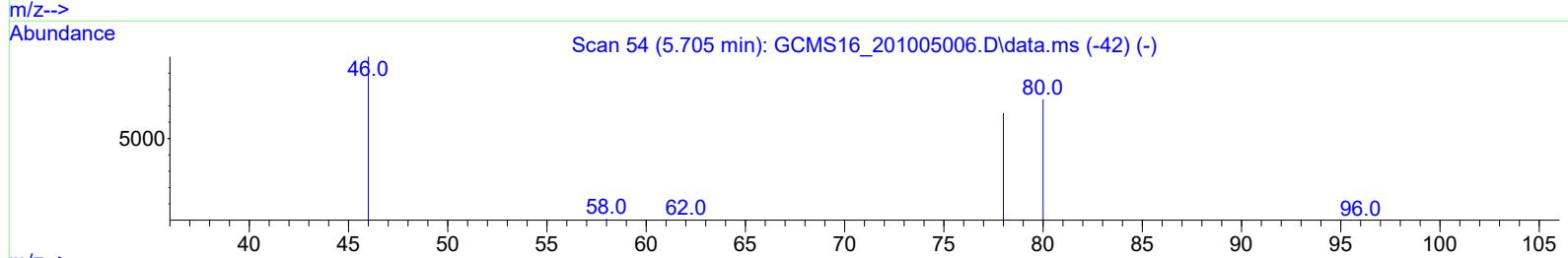
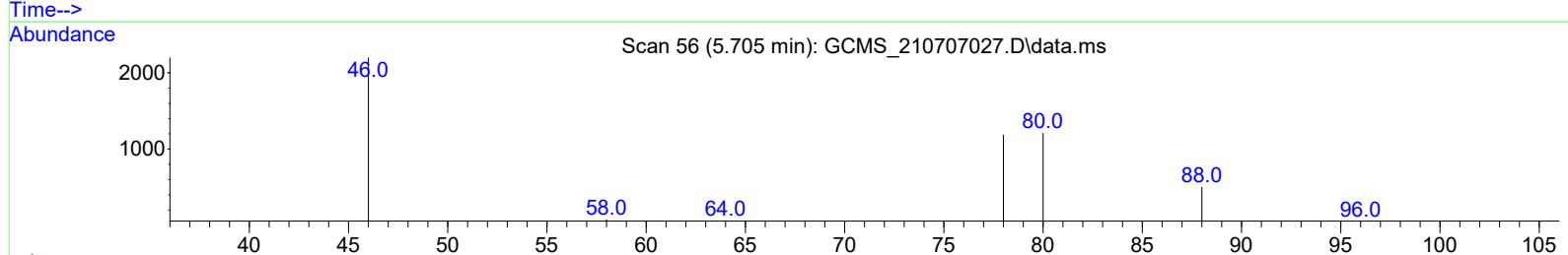
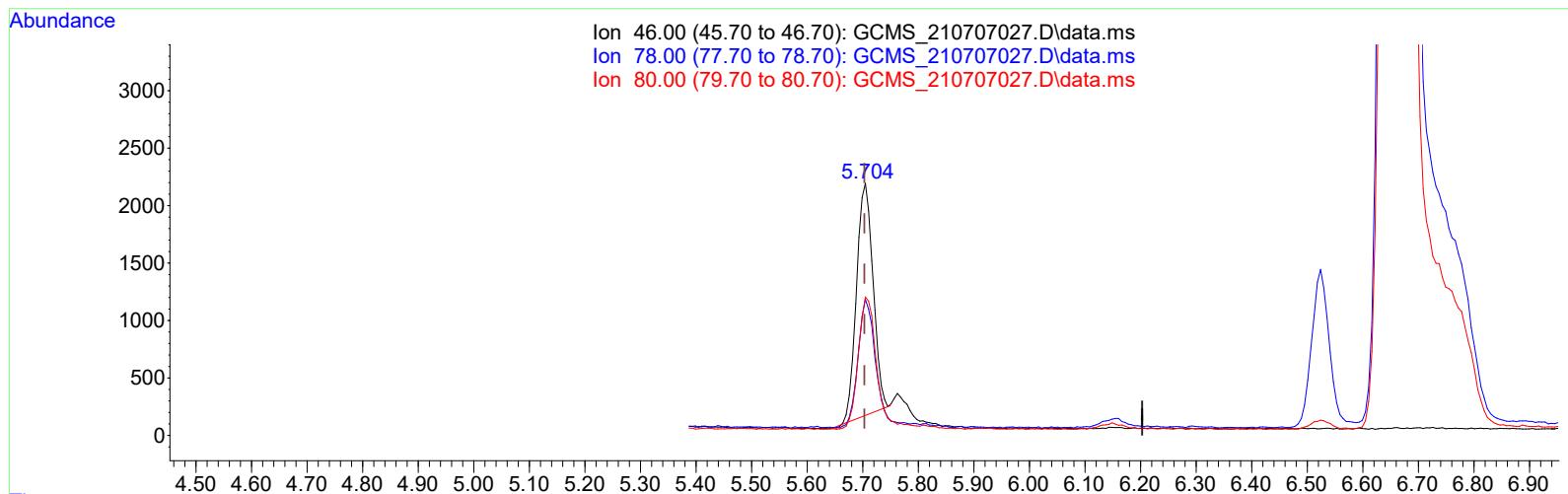


Tgt Ion: 88 Resp: 17936  
Ion Ratio Lower Upper  
88 100  
58 99.1 72.5 134.7



Data Path : D:\MassHunter\GCMS\1\data\210707mak\  
 Data File : GCMS\_210707027.D  
 Acq On : 07 Jul 2021 08:54 pm  
 Operator :  
 Sample : E21G005-BSD1  
 Misc :  
 ALS Vial : 18 Sample Multiplier: 1

Quant Time: Jul 08 09:11:54 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210707027.D\data.ms

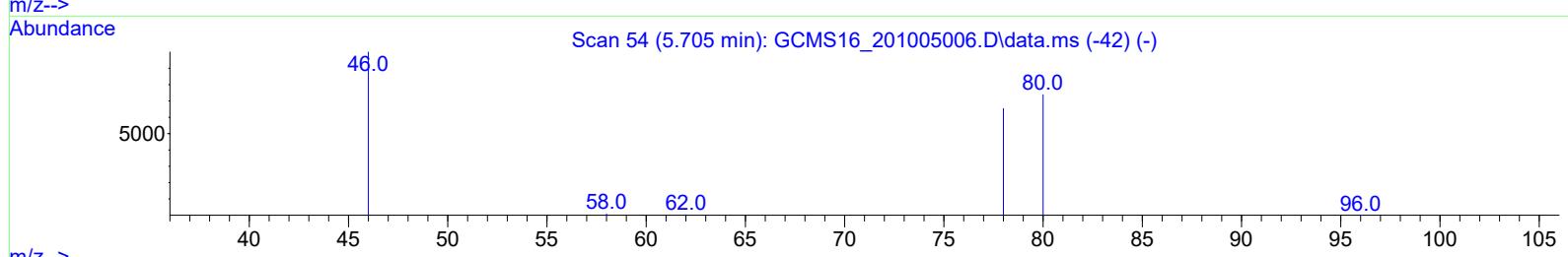
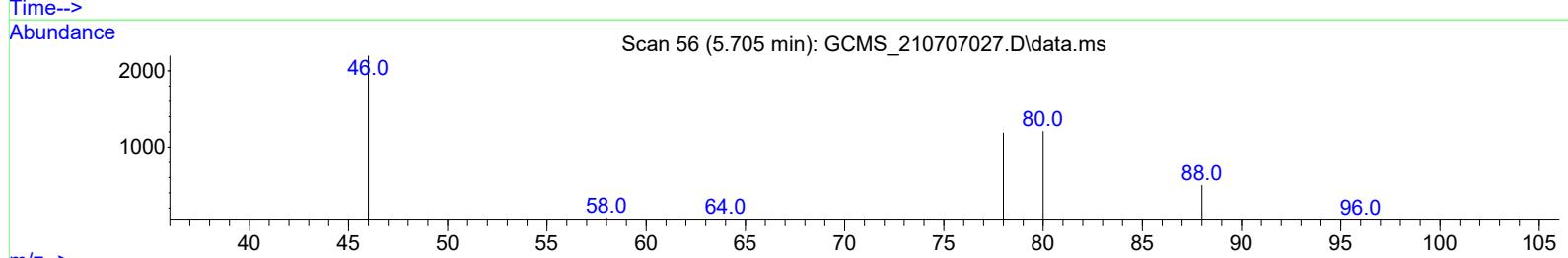
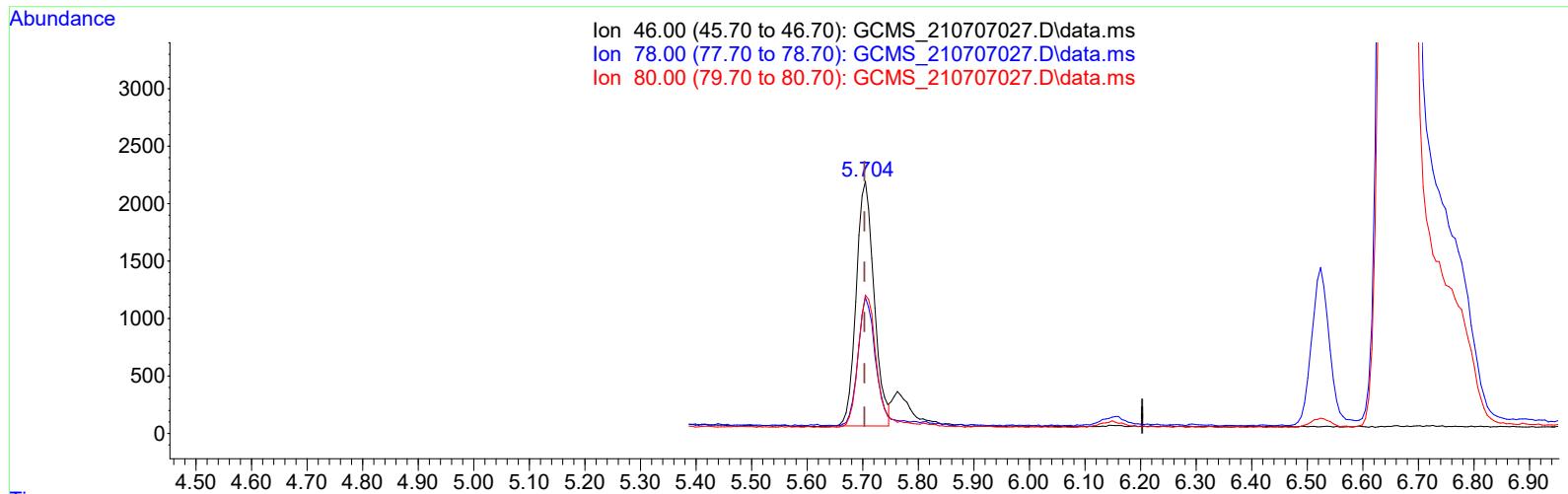
(1) TETRAHYDROFURAN-D8 (I)  
 5.706min (+ 0.003) 50.00 ug/L

response 41432

Ion	Exp%	Act%
46.00	100.00	100.00
78.00	39.30	57.13#
80.00	41.50	60.08#
0.00	0.00	0.00

Data Path : D:\MassHunter\Data\210707mak\  
 Data File : GCMS\_210707027.D  
 Acq On : 07 Jul 2021 08:54 pm  
 Operator :  
 Sample : E21G005-BSD1  
 Misc :  
 ALS Vial : 18 Sample Multiplier: 1

Quant Time: Jul 08 09:11:54 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210707027.D\data.ms

(1) TETRAHYDROFURAN-D8 (I)

5.705min (+ 0.002) 50.00 ug/L m

response 47646

Ion	Exp%	Act%
46.00	100.00	100.00
78.00	39.30	49.68
80.00	41.50	52.25
0.00	0.00	0.00

REVIEWED  
By Bruce Gallant at 8:48 am, Aug 17, 2021

## **Sample Data**

Data Path : D:\MassHunter\Data\210630Amak\  
Data File : GCMS\_210630014.D  
Acq On : 30 Jun 2021 08:56 pm  
Operator :  
Sample : E210602-01  
Misc :  
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jul 01 11:30:46 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	5.705	46	77775m	50.00	ug/L	0.00
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	7.819	96	32060	25.59	ug/L	0.00
<hr/>						
Target Compounds				Qvalue		
3) 1,4-Dioxane	0.000		0	N.D.		

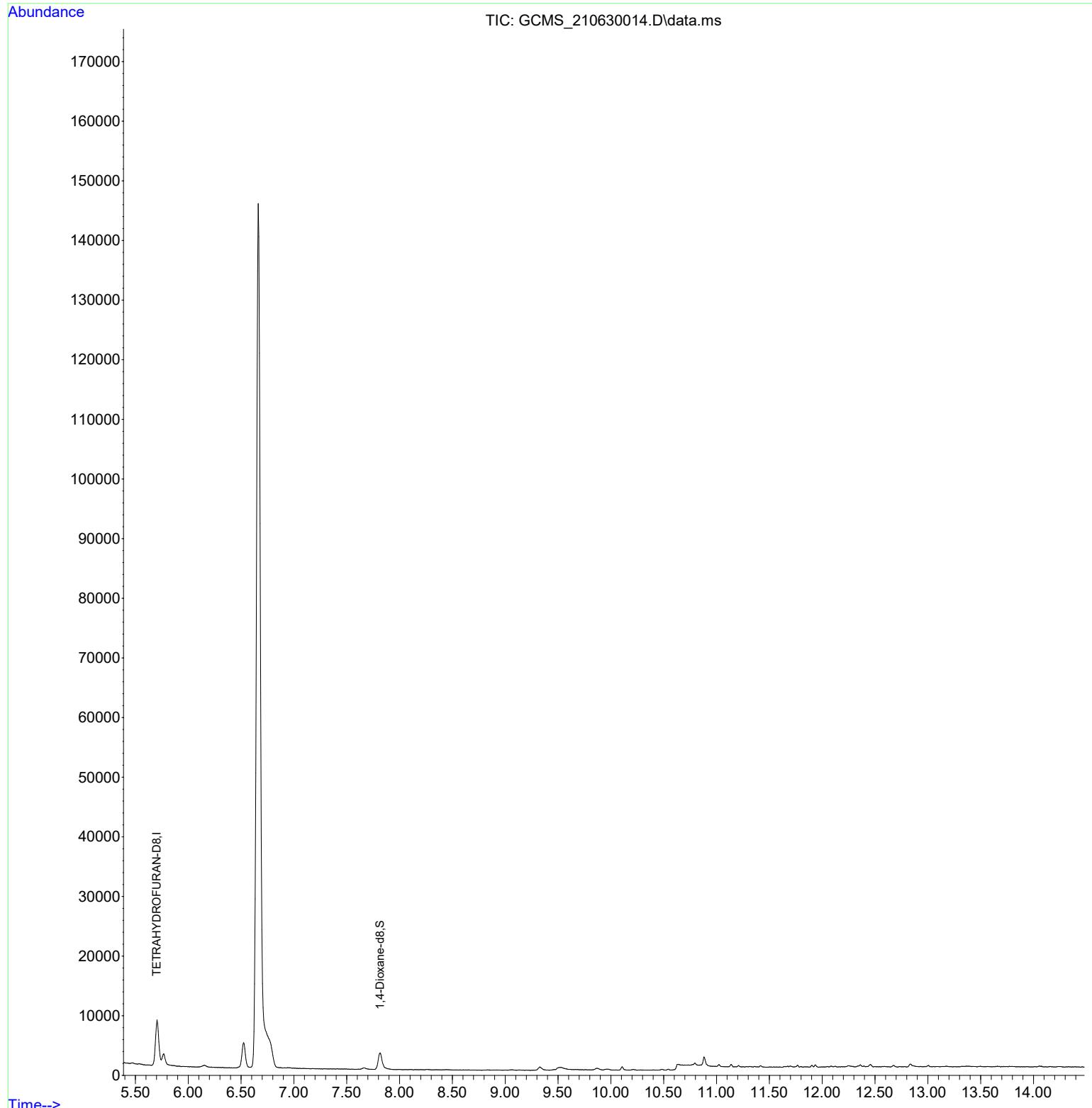
(#) = qualifier out of range (m) = manual integration (+) = signals summed

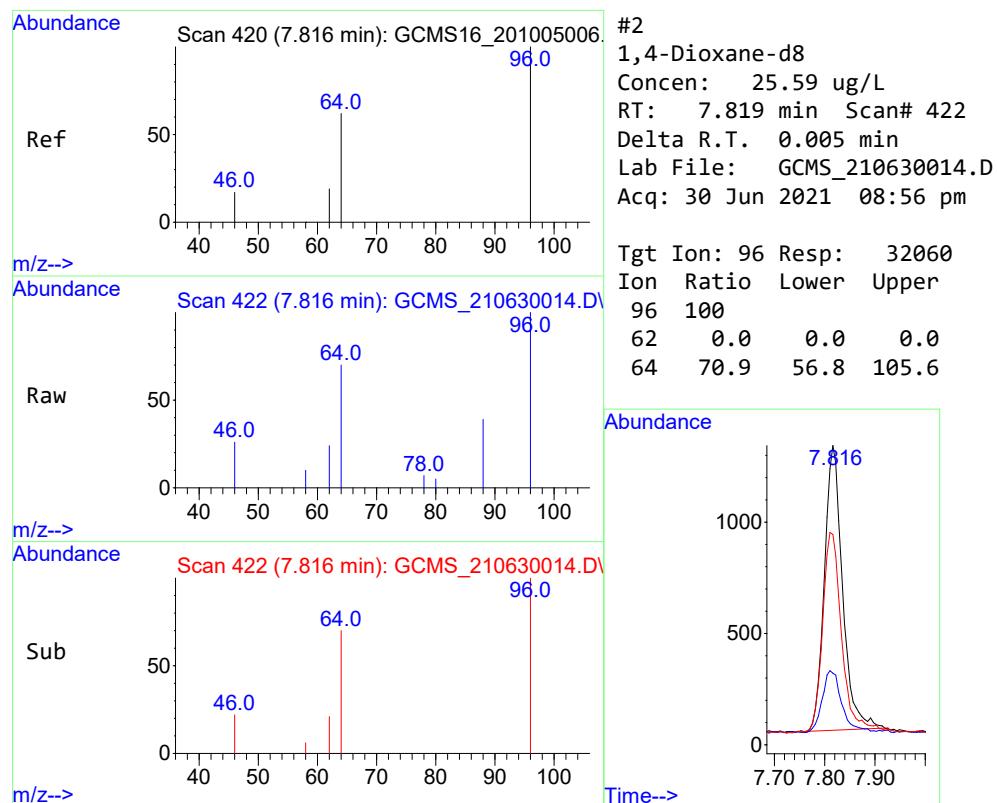
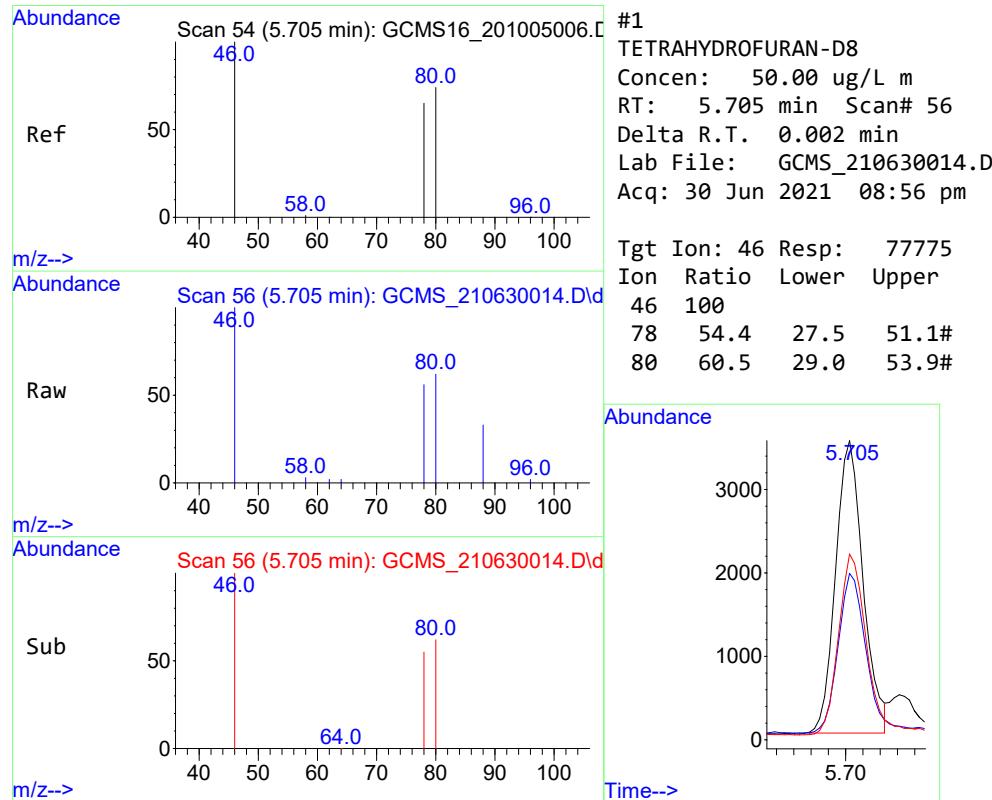
MAK 8/13/2021

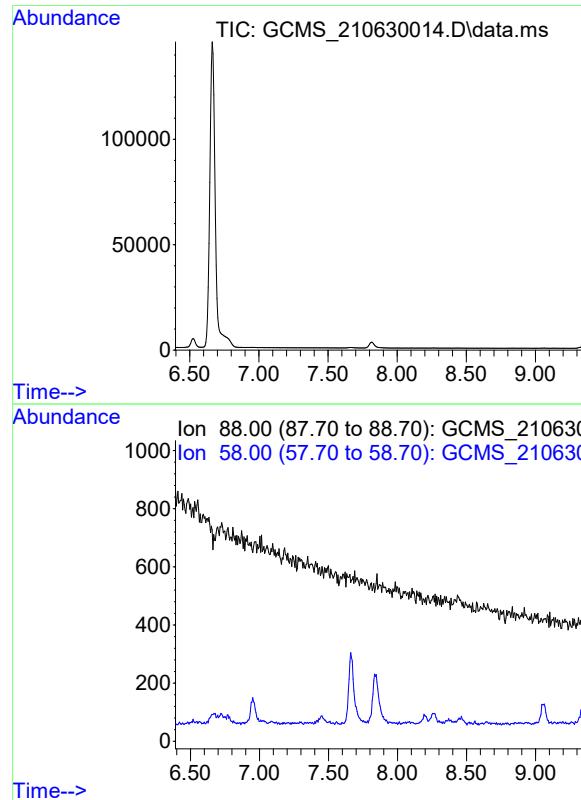


Data Path : D:\MassHunter\Data\210630Amak\  
Data File : GCMS\_210630014.D  
Acq On : 30 Jun 2021 08:56 pm  
Operator :  
Sample : E210602-01  
Misc :  
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jul 01 11:30:46 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration







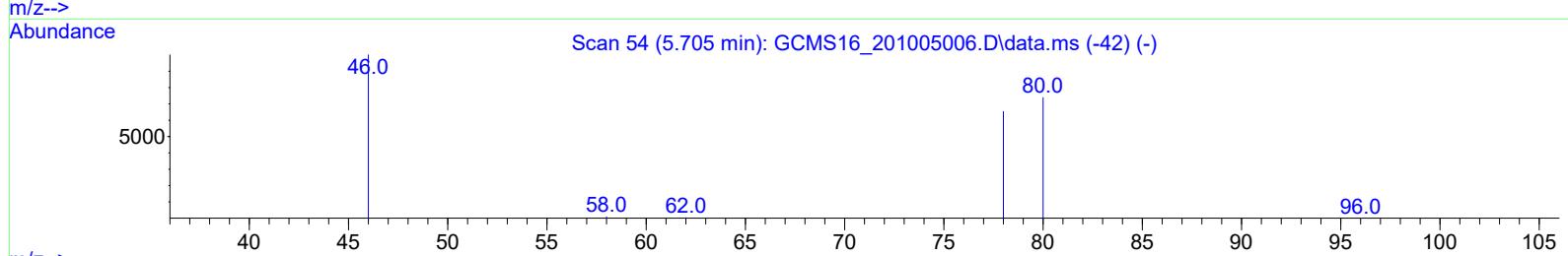
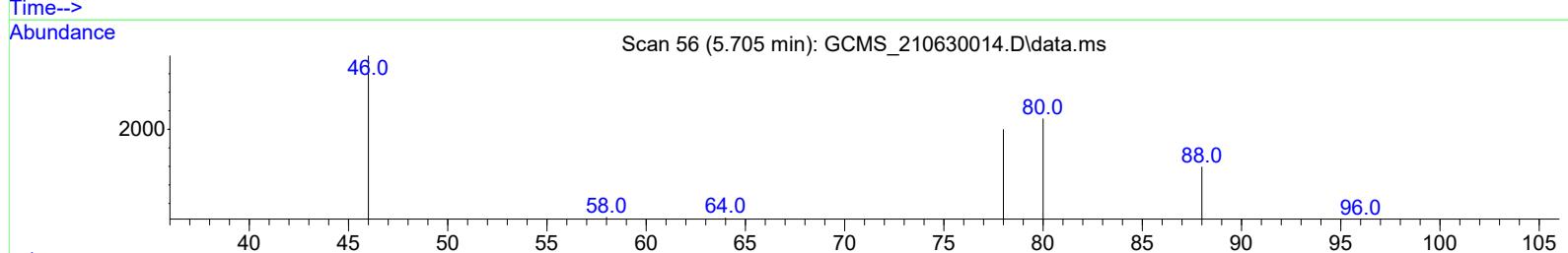
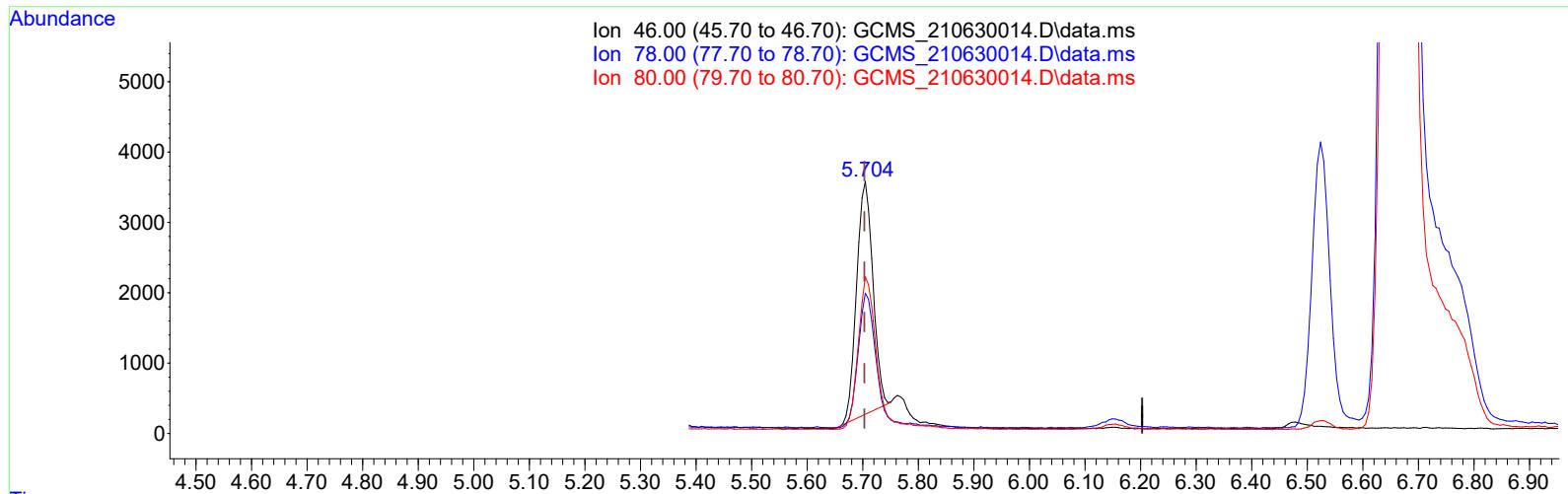
#3  
1,4-Dioxane  
Concen: N.D.  
Expected RT: 7.89 min

Lab File: GCMS\_210630014.D  
Acq: 30 Jun 2021 08:56 pm

Tgt Ion: 88  
Sig Exp Ratio  
88 100  
58 103.6

Data Path : D:\MassHunter\Data\210630Amak\  
 Data File : GCMS\_210630014.D  
 Acq On : 30 Jun 2021 08:56 pm  
 Operator :  
 Sample : E210602-01  
 Misc :  
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Aug 11 09:02:32 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210630014.D\data.ms

(1) TETRAHYDROFURAN-D8 (I)

5.706min (+ 0.003) 50.00 ug/L

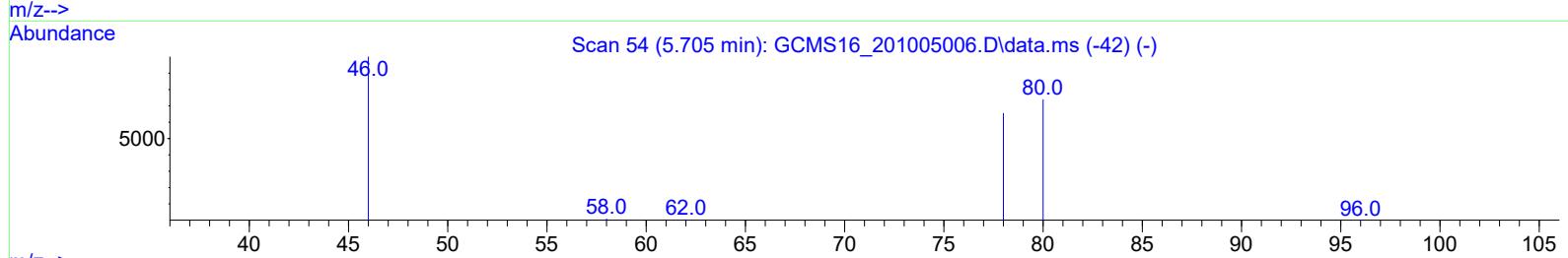
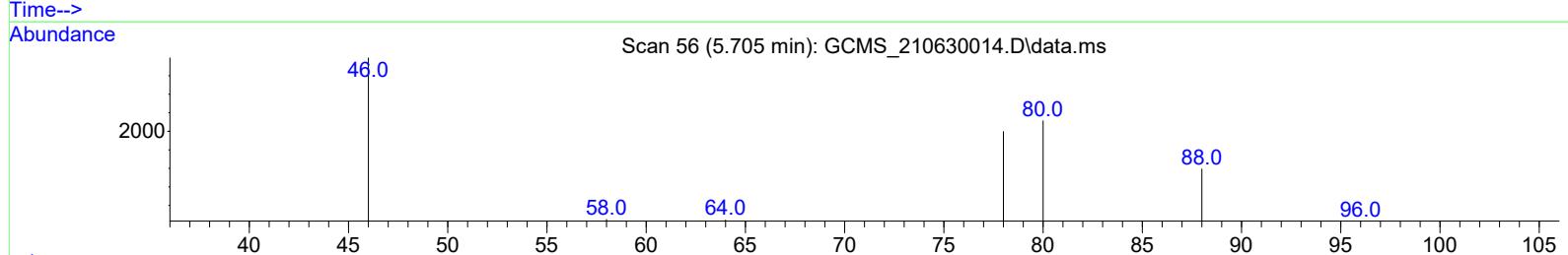
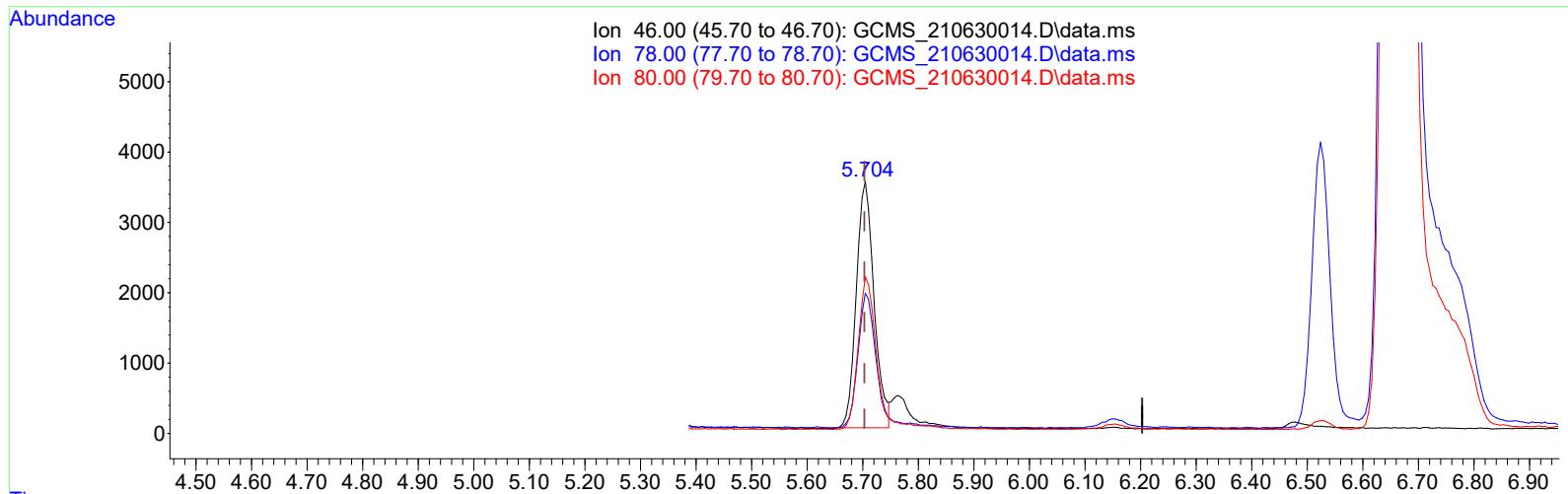
Before I,B MAK 8/13/2021

response 66927

Ion	Exp%	Act%
46.00	100.00	100.00
78.00	39.30	63.25#
80.00	41.50	70.29#
0.00	0.00	0.00

Data Path : D:\MassHunter\Data\210630Amak\  
 Data File : GCMS\_210630014.D  
 Acq On : 30 Jun 2021 08:56 pm  
 Operator :  
 Sample : E210602-01  
 Misc :  
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jul 01 11:30:46 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210630014.D\data.ms

## (1) TETRAHYDROFURAN-D8 (I)

5.705min (+ 0.002) 50.00 ug/L m

response 77775 After MAK 8/13/2021

**REVIEWED**  
By Bruce Gallant at 8:49 am, Aug 17, 2021

Ion	Exp%	Act%
46.00	100.00	100.00
78.00	39.30	54.43#
80.00	41.50	60.49#
0.00	0.00	0.00

Data Path : D:\MassHunter\Data\210707mak\  
 Data File : GCMS\_210707018.D  
 Acq On : 07 Jul 2021 05:44 pm  
 Operator :  
 Sample : E210602-02RE1  
 Misc :  
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jul 08 09:11:36 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	5.687	46	35563m	50.00	ug/L	-0.02
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	7.813	96	15593	27.22	ug/L	0.00
<hr/>						
Target Compounds				Qvalue		
3) 1,4-Dioxane	7.890	88	109201	181.05	ug/L	80
<hr/>						

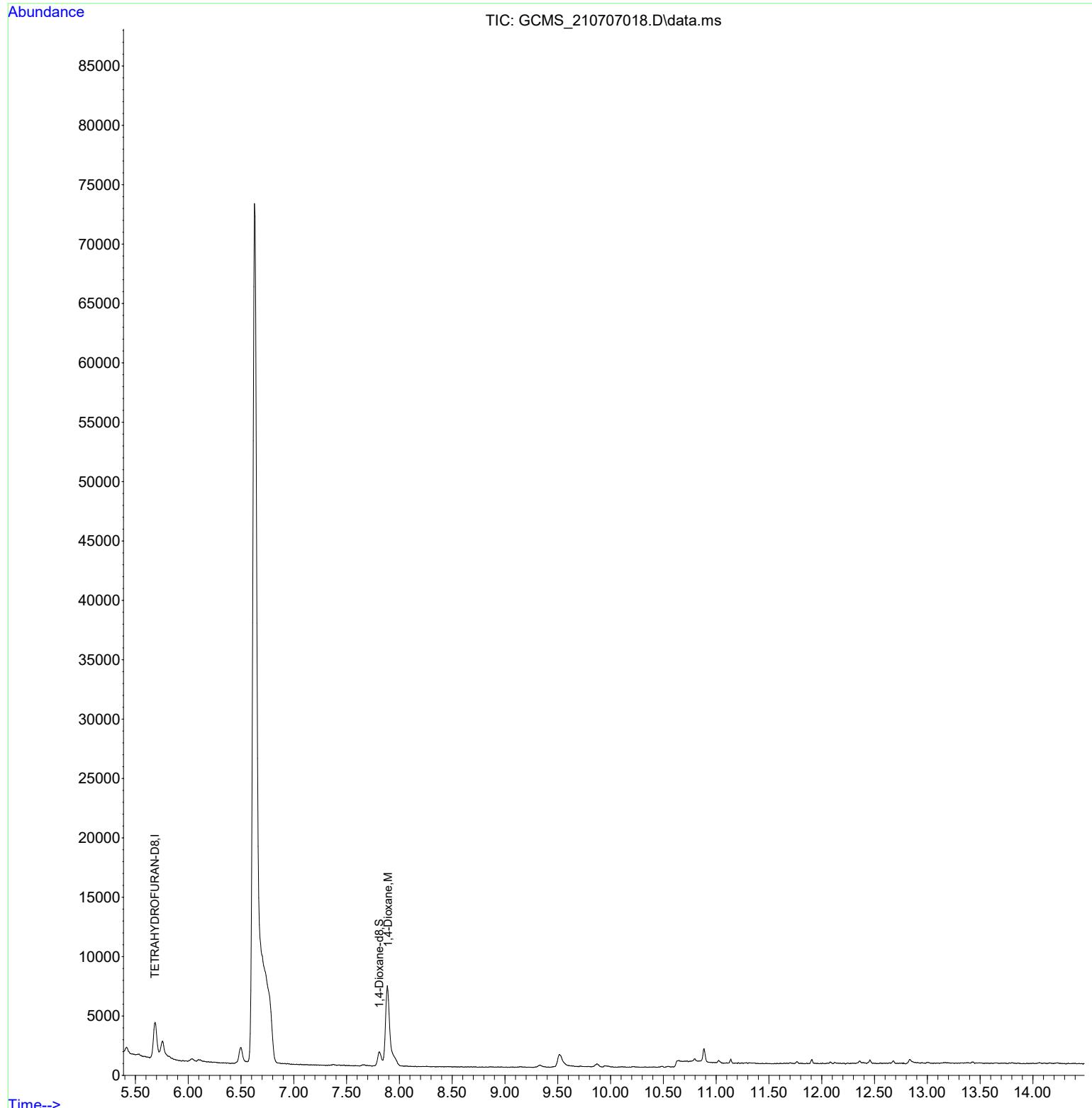
(#) = qualifier out of range (m) = manual integration (+) = signals summed

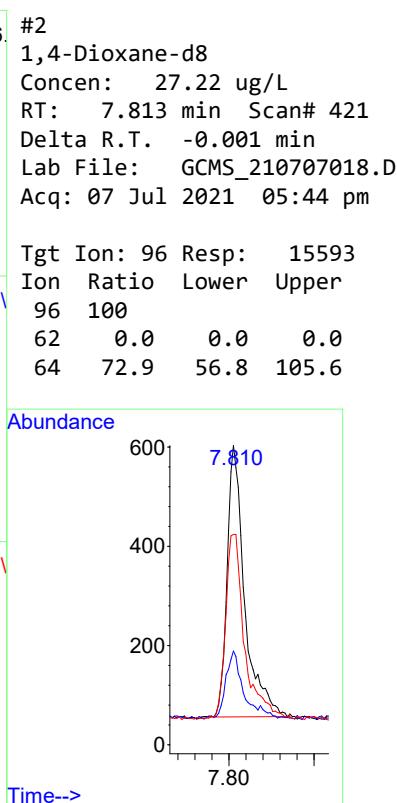
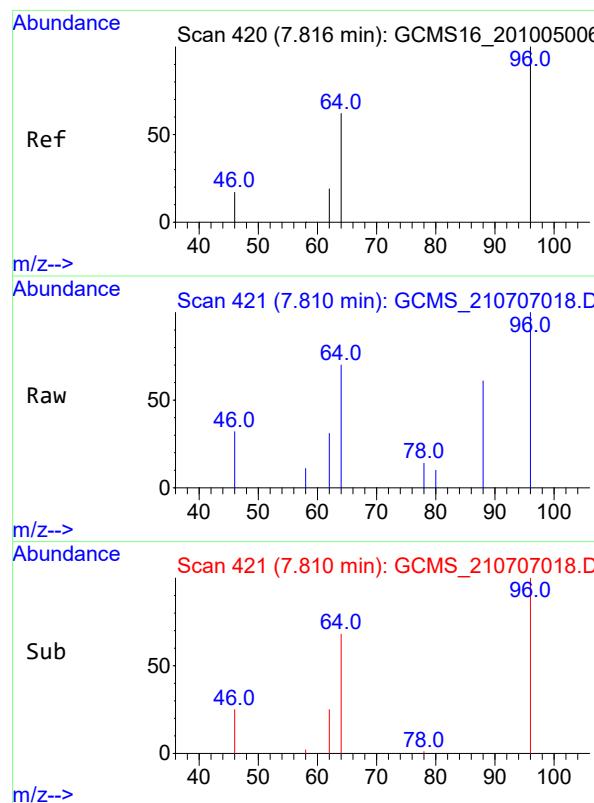
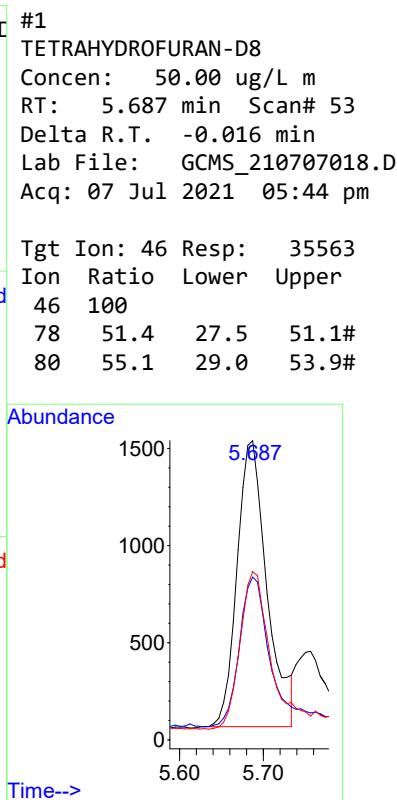
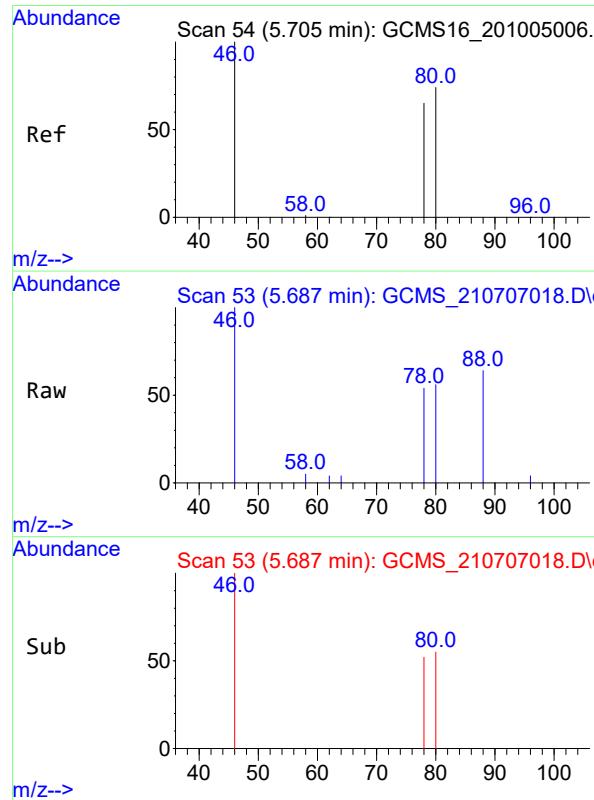
MAK 8/13/2021

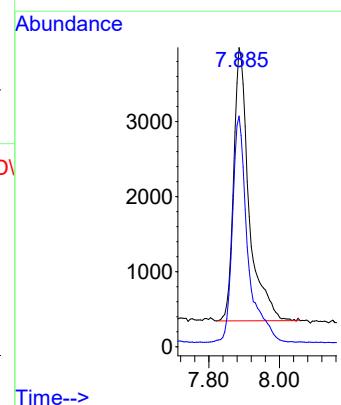
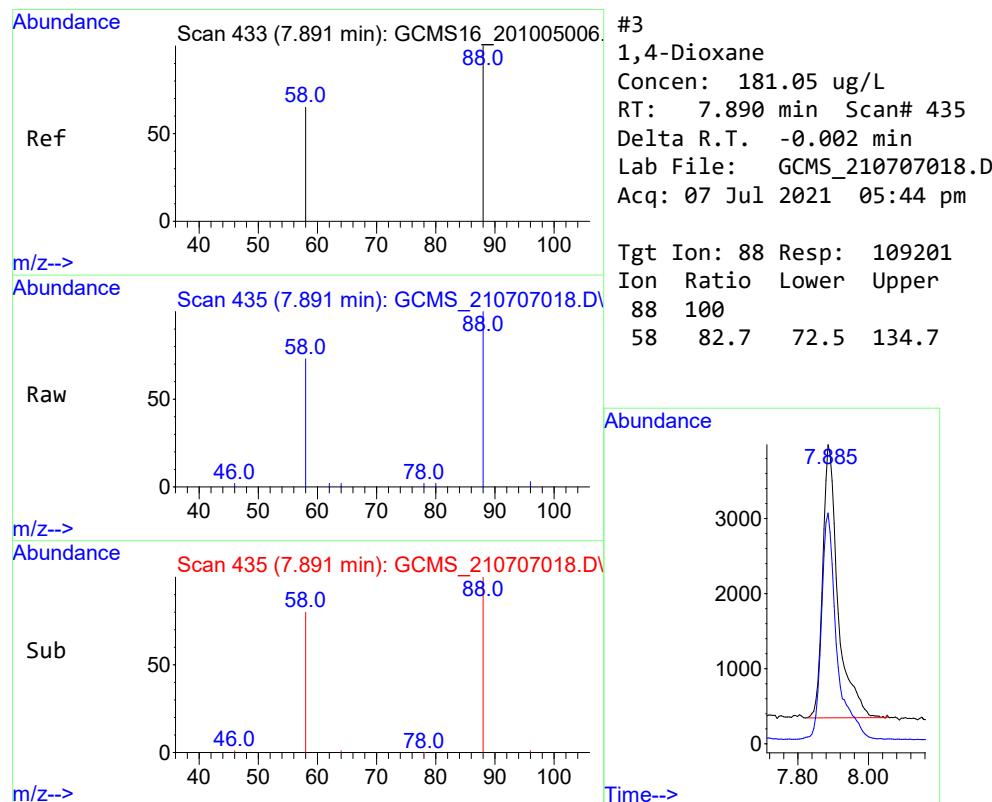
**REVIEWED**  
By Bruce Gallant at 8:49 am, Aug 17, 2021

Data Path : D:\MassHunter\Data\210707mak\  
Data File : GCMS\_210707018.D  
Acq On : 07 Jul 2021 05:44 pm  
Operator :  
Sample : E210602-02RE1  
Misc :  
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jul 08 09:11:36 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration

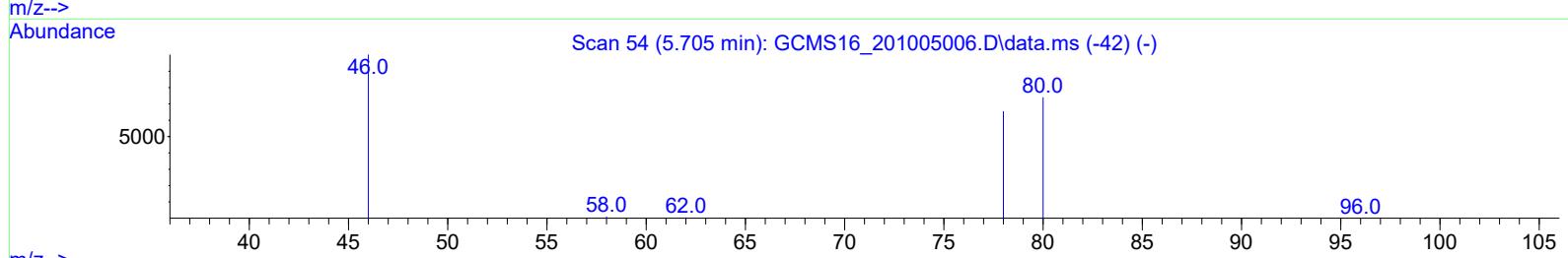
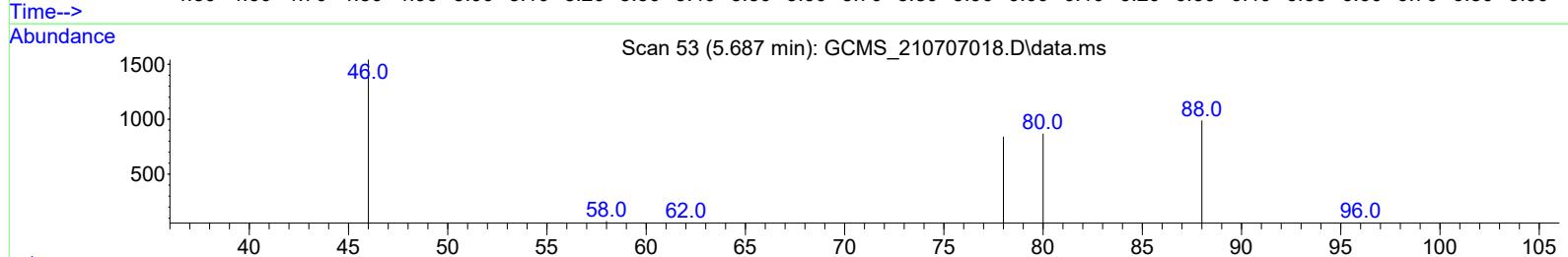
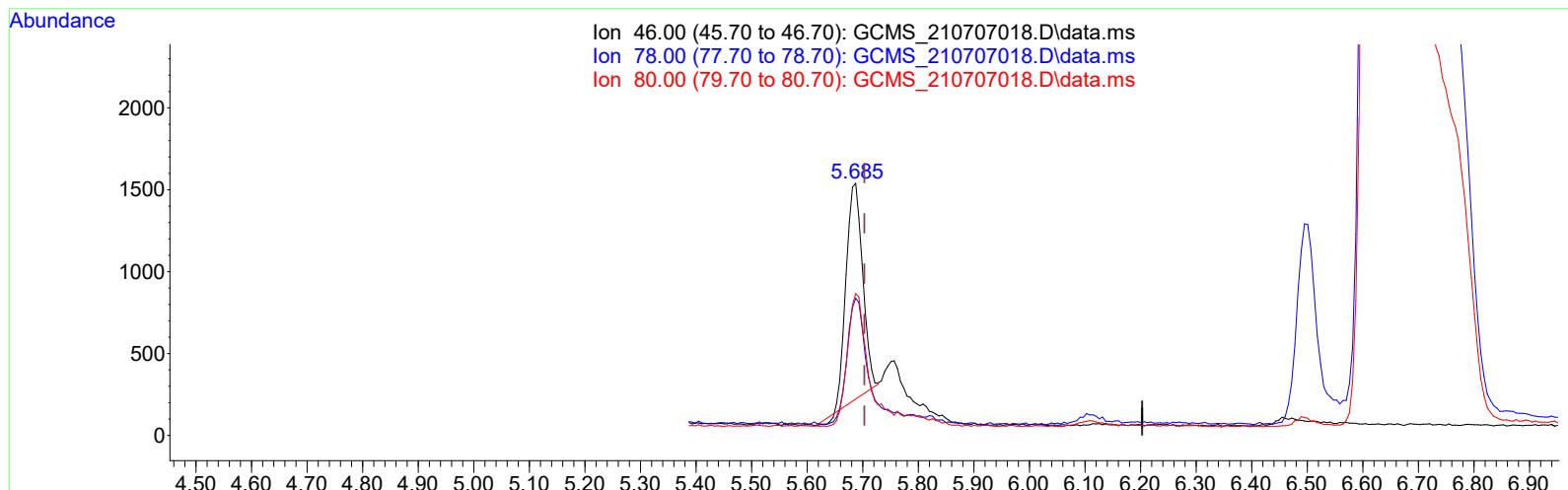






Data Path : D:\MassHunter\GCMS\1\data\210707mak\  
 Data File : GCMS\_210707018.D  
 Acq On : 07 Jul 2021 05:44 pm  
 Operator :  
 Sample : E210602-02RE1  
 Misc :  
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jul 08 09:11:36 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210707018.D\data.ms

(1) TETRAHYDROFURAN-D8 (I)

5.687min (-0.016) 50.00 ug/L

Before I,B MAK 8/13/2021

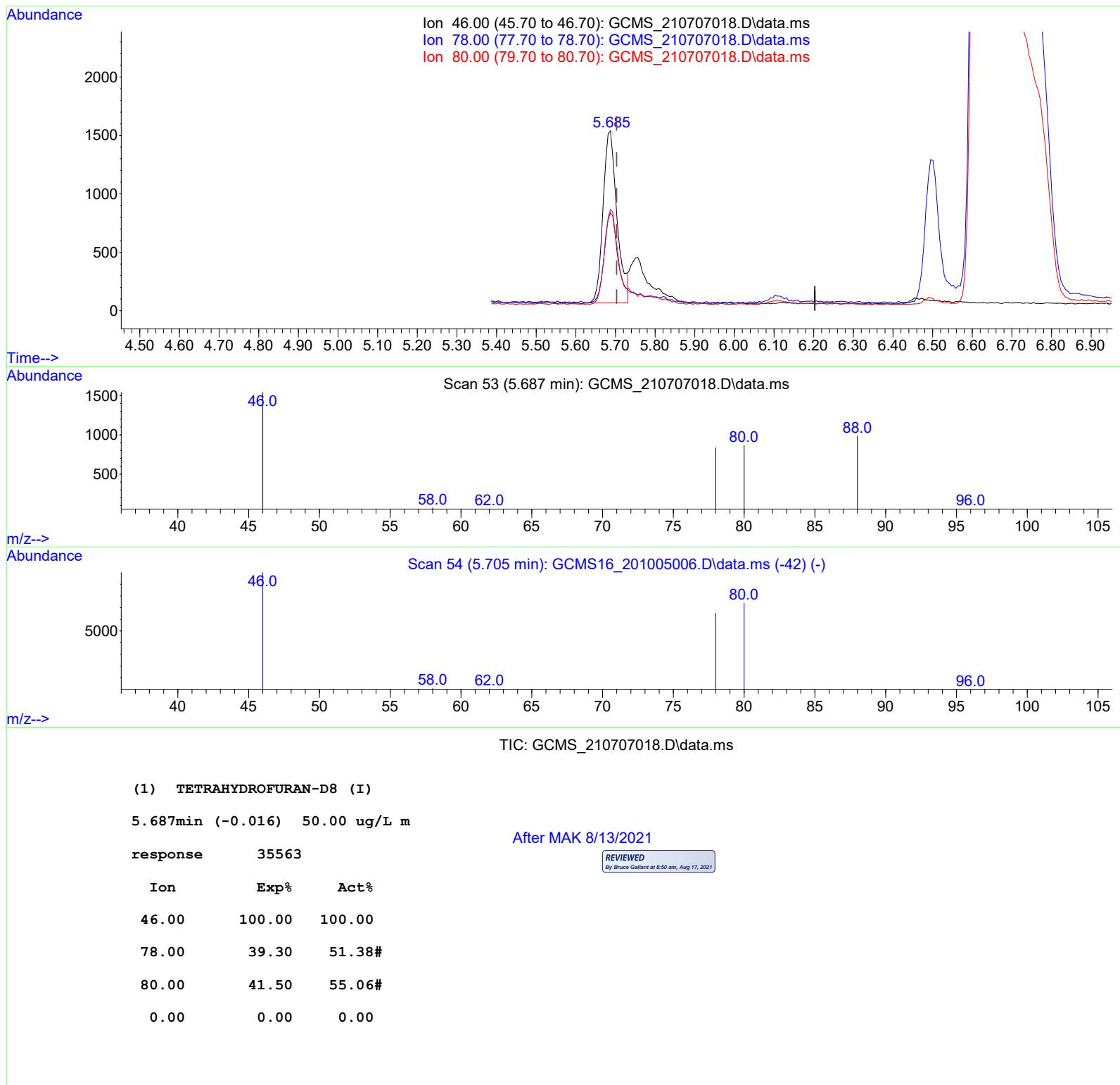
response 26768

Ion	Exp%	Act%
46.00	100.00	100.00
78.00	39.30	68.26#
80.00	41.50	73.16#
0.00	0.00	0.00

## Quantitation Report (Qedit)

Data Path : J:\Southeast Rockford Groundwater\4. MS\E210602 and E210603 14diox\Templates\GCMS16\Data\210707mak\  
 Data File : GCMS\_210707018.D  
 Acq On : 07 Jul 2021 17:44  
 Operator :  
 Sample : E210602-02RE1  
 Misc :  
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jul 08 09:11:36 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624.mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



Data Path : D:\MassHunter\Data\210707mak\  
Data File : GCMS\_210707019.D  
Acq On : 07 Jul 2021 06:05 pm  
Operator :  
Sample : E210602-03RE1  
Misc :  
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jul 08 09:11:38 2021

Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M

Quant Title : Initial Calibration of 1,4-Dioxane 021317

QLast Update : Thu Jun 24 15:10:43 2021

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	5.687	46	34766m	50.00	ug/L	-0.02
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	7.816	96	15683	28.01	ug/L	0.00
<hr/>						
Target Compounds				Qvalue		
3) 1,4-Dioxane	7.893	88	82207	139.42	ug/L	81
<hr/>						

(#) = qualifier out of range (m) = manual integration (+) = signals summed

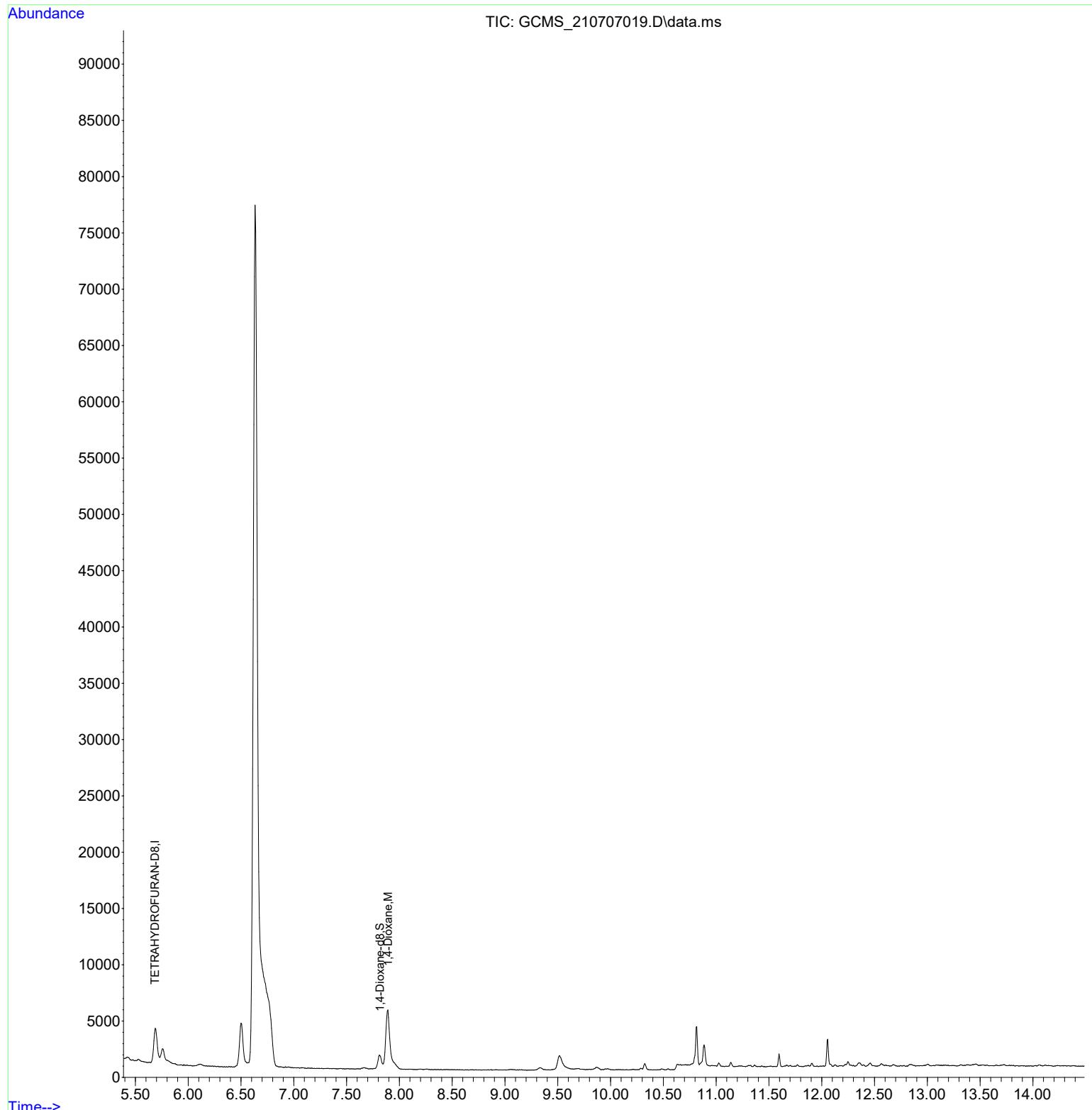
MAK 8/13/2021

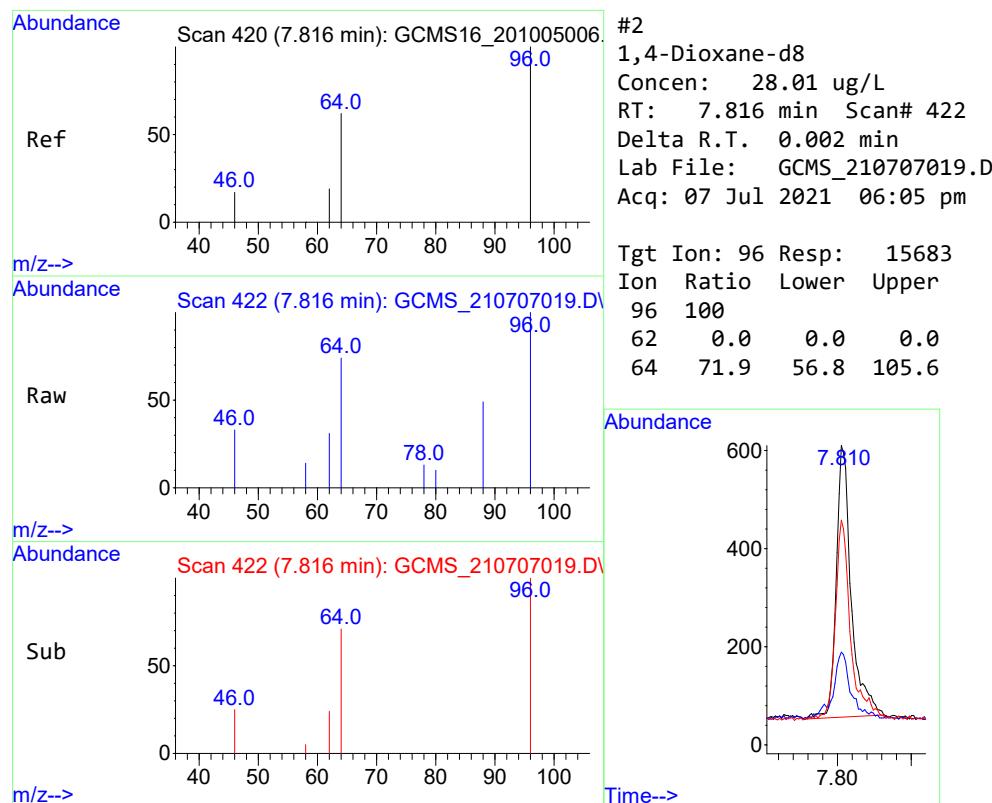
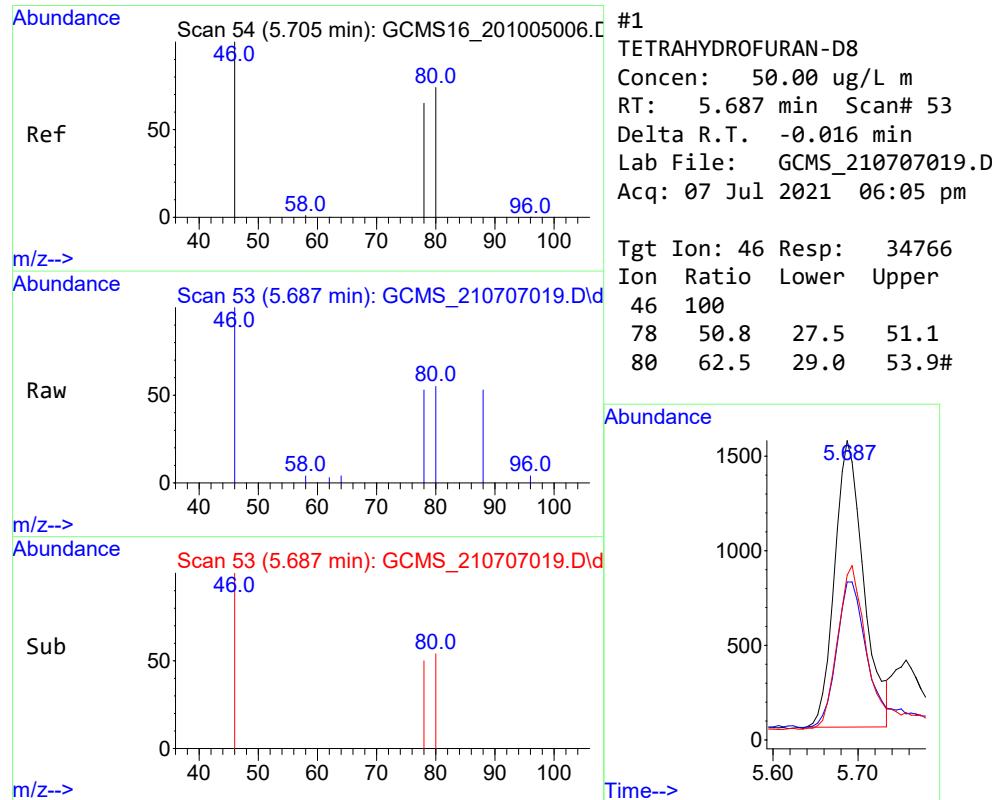
REVIEWED

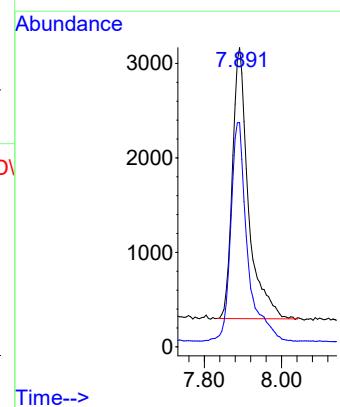
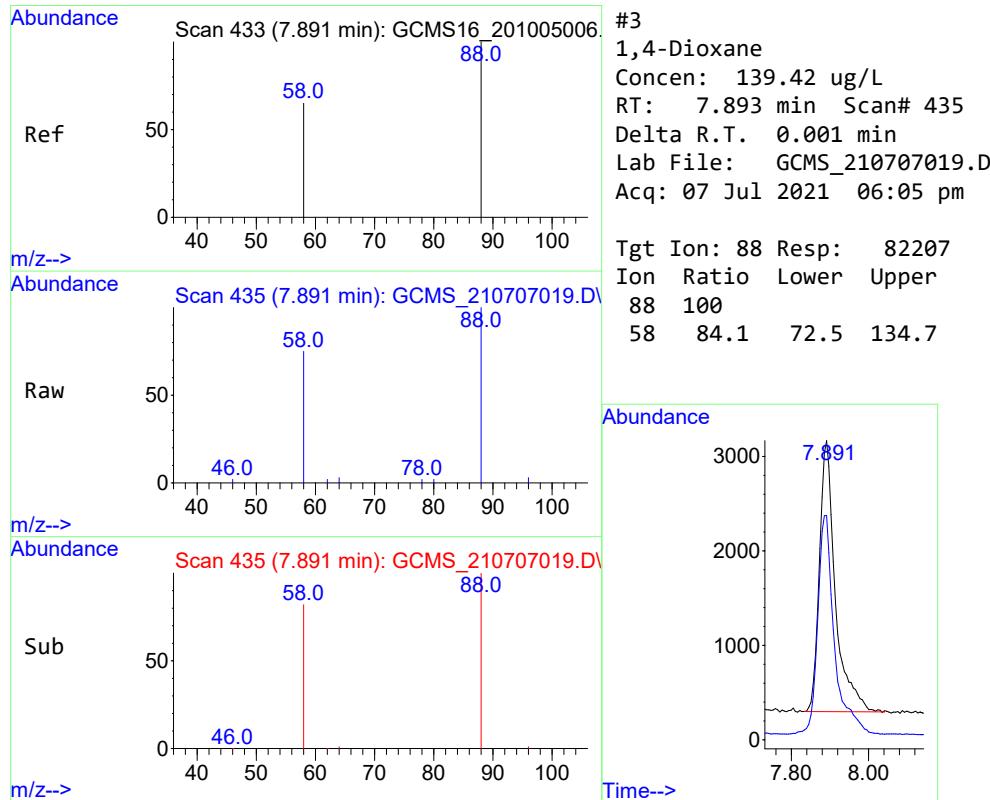
By Bruce Gallant at 8:50 am, Aug 17, 2021

Data Path : D:\MassHunter\Data\210707mak\  
Data File : GCMS\_210707019.D  
Acq On : 07 Jul 2021 06:05 pm  
Operator :  
Sample : E210602-03RE1  
Misc :  
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jul 08 09:11:38 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration

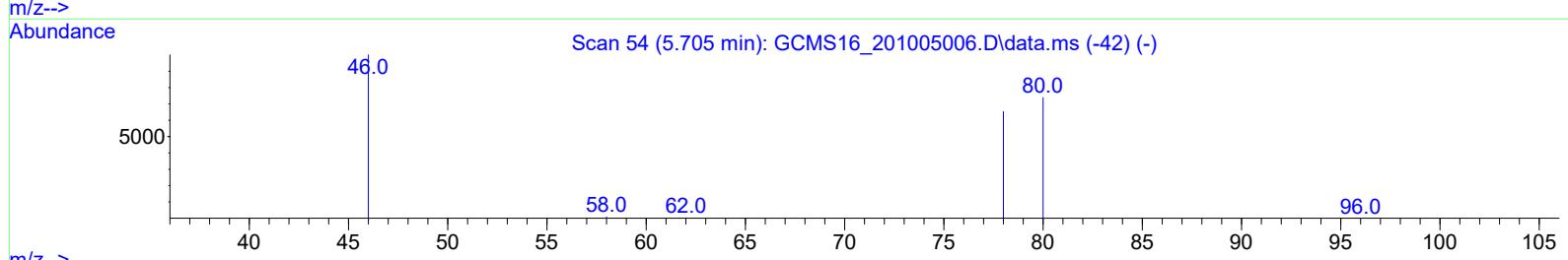
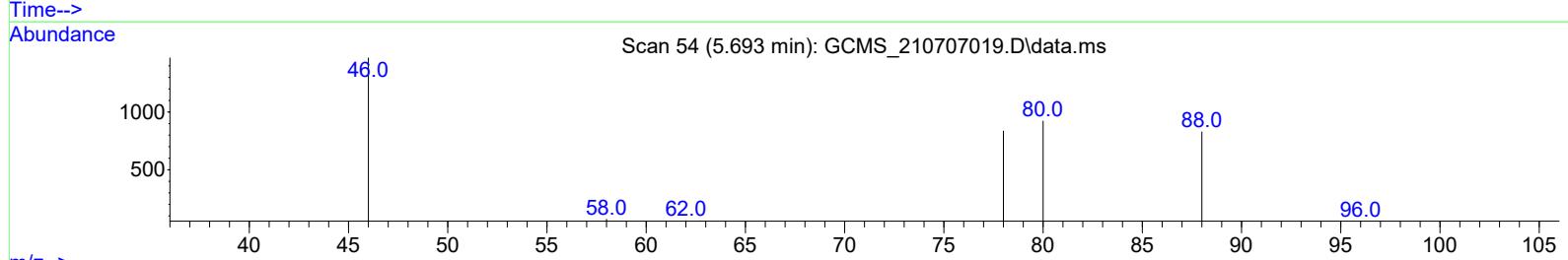
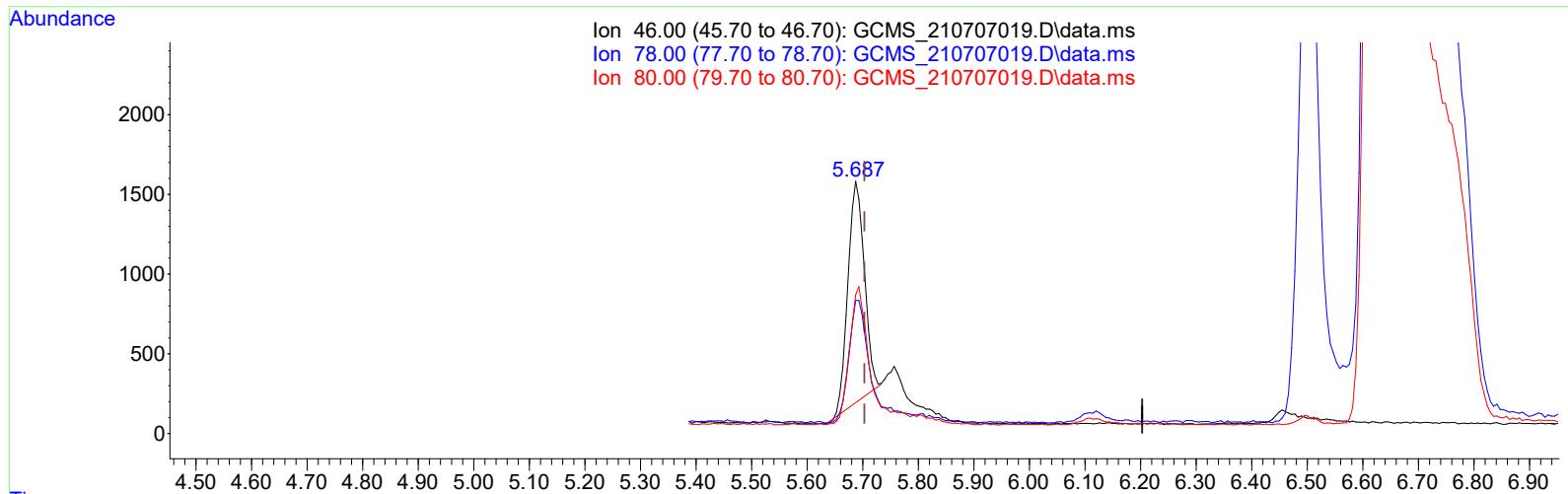






Data Path : D:\MassHunter\GCMS\1\data\210707mak\  
 Data File : GCMS\_210707019.D  
 Acq On : 07 Jul 2021 06:05 pm  
 Operator :  
 Sample : E210602-03RE1  
 Misc :  
 ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jul 08 09:11:38 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210707019.D\data.ms

(1) TETRAHYDROFURAN-D8 (I)  
 5.690min (-0.013) 50.00 ug/L

response 28116

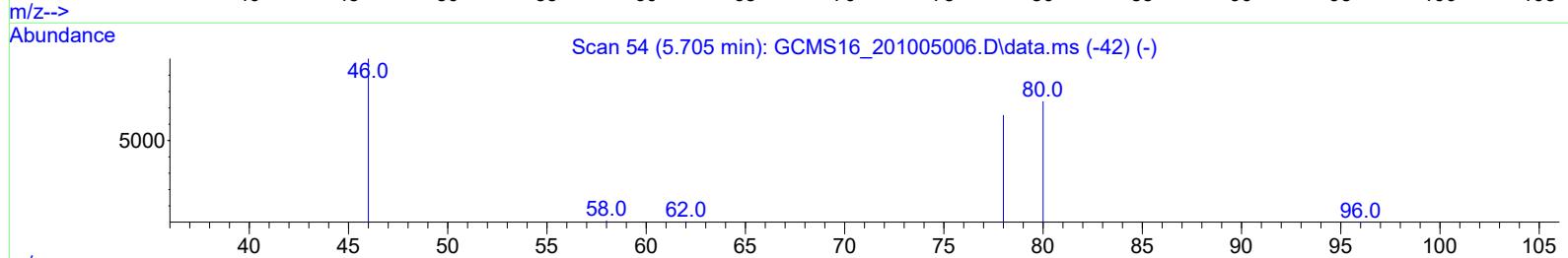
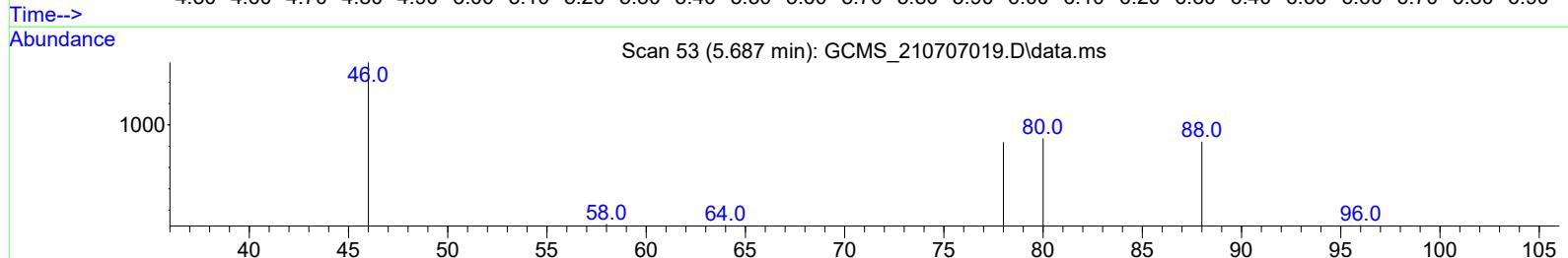
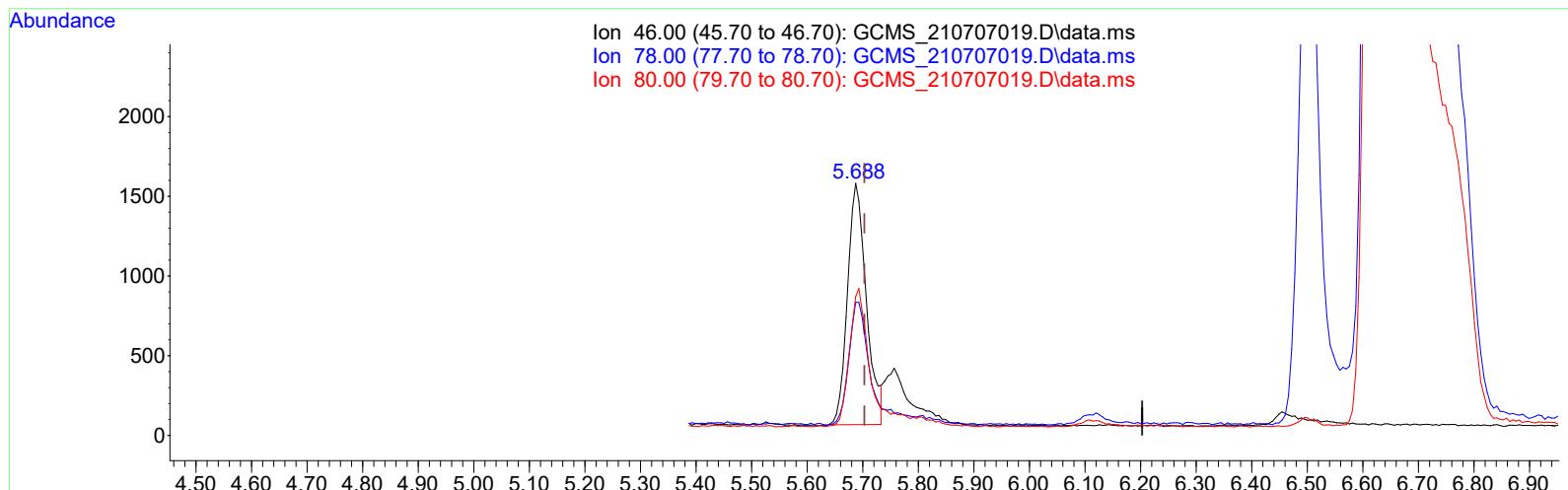
Before I,B MAK 8/13/2021

Ion	Exp%	Act%
46.00	100.00	100.00
78.00	39.30	62.87#
80.00	41.50	77.32#
0.00	0.00	0.00

## Quantitation Report (Qedit)

Data Path : J:\Southeast Rockford Groundwater\4. MS\E210602 and E210603 14diox\Templates\GCMS16\Data\210707mak\  
 Data File : GCMS\_210707019.D  
 Acq On : 07 Jul 2021 06:05 pm  
 Operator :  
 Sample : E210602-03RE1  
 Misc :  
 ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jul 08 09:11:38 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624.mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210707019.D\data.ms

(1) TETRAHYDROFURAN-D8 (I)

5.687min (-0.016) 50.00 ug/L m

response 34766

After MAK 8/13/2021

Ion	Exp%	Act%
46.00	100.00	100.00
78.00	39.30	50.84
80.00	41.50	62.53#
0.00	0.00	0.00

REVIEWED  
By Bruce Gallant at 8:51 am, Aug 17, 2021

Data Path : D:\MassHunter\Data\210707mak\  
Data File : GCMS\_210707020.D  
Acq On : 07 Jul 2021 06:26 pm  
Operator :  
Sample : E210602-04RE1  
Misc :  
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jul 08 09:11:40 2021

Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M

Quant Title : Initial Calibration of 1,4-Dioxane 021317

QLast Update : Thu Jun 24 15:10:43 2021

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	5.693	46	42530m	50.00	ug/L	0.00
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	7.819	96	16655	24.31	ug/L	0.00
<hr/>						
Target Compounds				Qvalue		
3) 1,4-Dioxane	7.892	88	112518	155.99	ug/L	81
<hr/>						

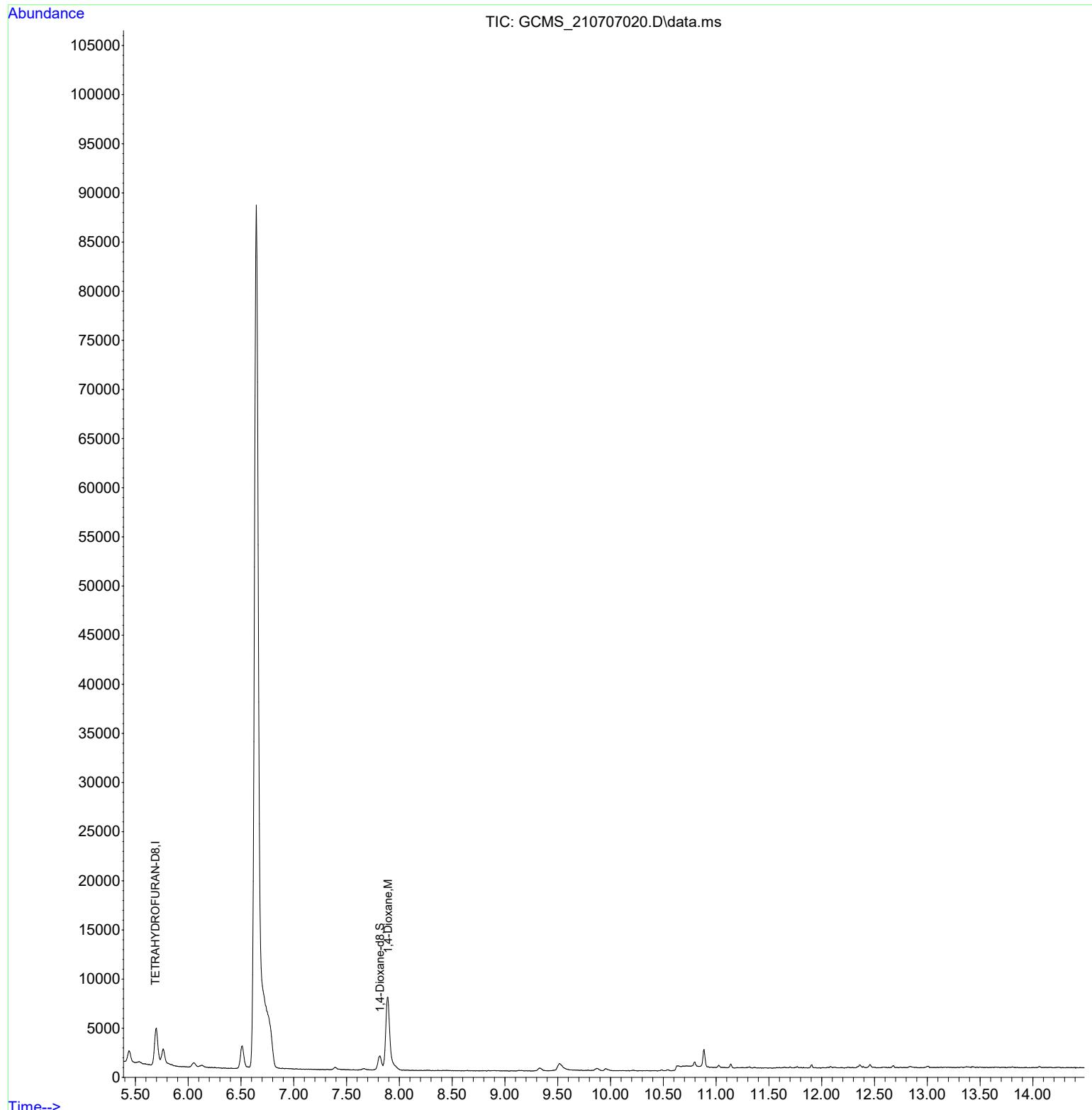
MAK 8/13/2021

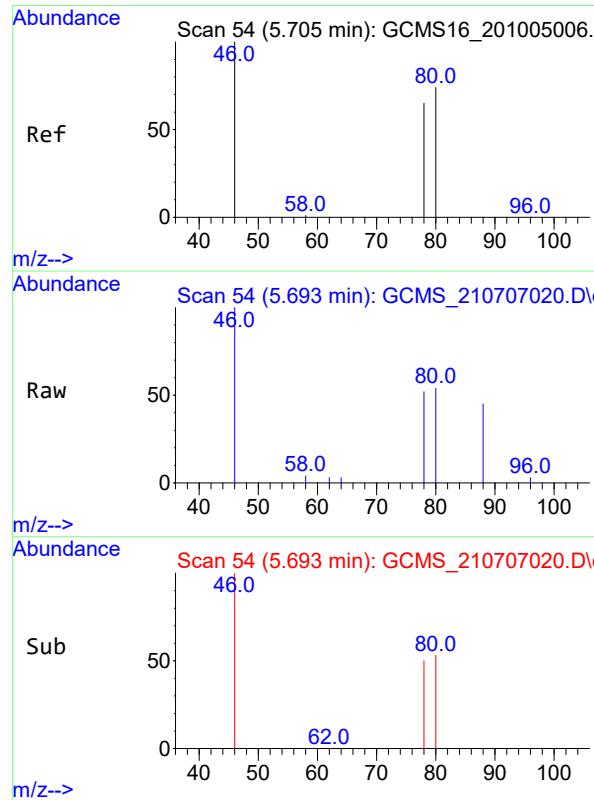
(#) = qualifier out of range (m) = manual integration (+) = signals summed

REVIEWED  
By Bruce Gallant at 8:51 am, Aug 17, 2021

Data Path : D:\MassHunter\Data\210707mak\  
Data File : GCMS\_210707020.D  
Acq On : 07 Jul 2021 06:26 pm  
Operator :  
Sample : E210602-04RE1  
Misc :  
ALS Vial : 11 Sample Multiplier: 1

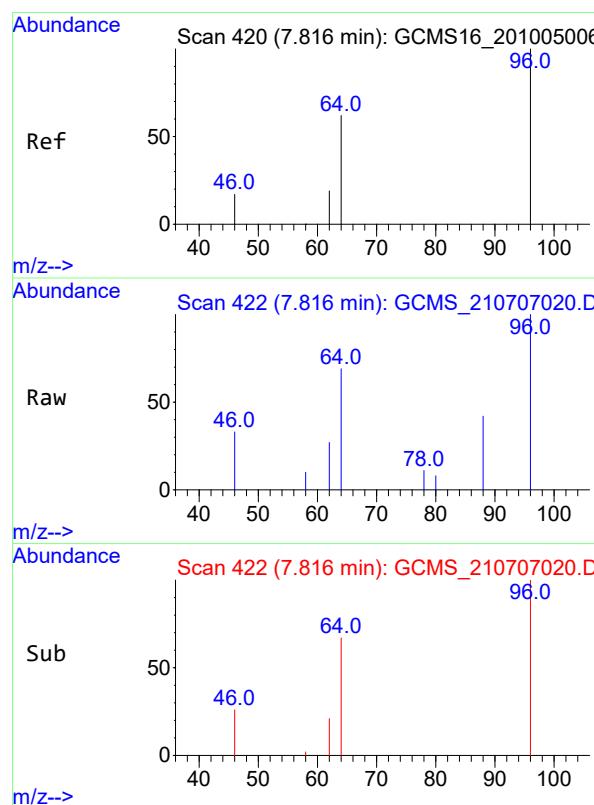
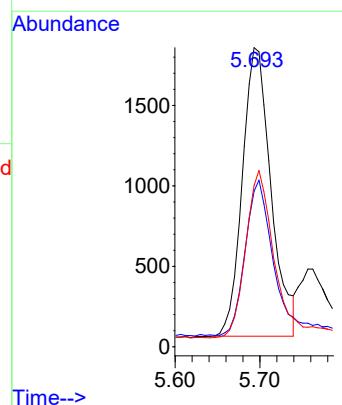
Quant Time: Jul 08 09:11:40 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration





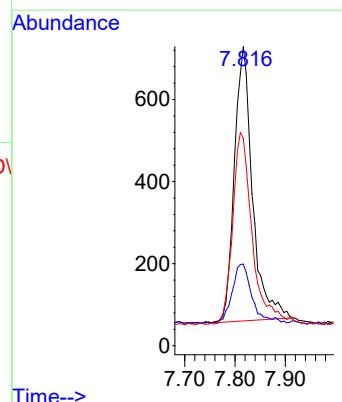
#1  
**TETRAHYDROFURAN-D8**  
Concen: 50.00 ug/L m  
RT: 5.693 min Scan# 54  
Delta R.T. -0.010 min  
Lab File: GCMS\_210707020.D  
Acq: 07 Jul 2021 06:26 pm

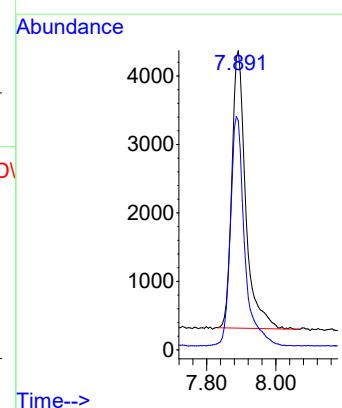
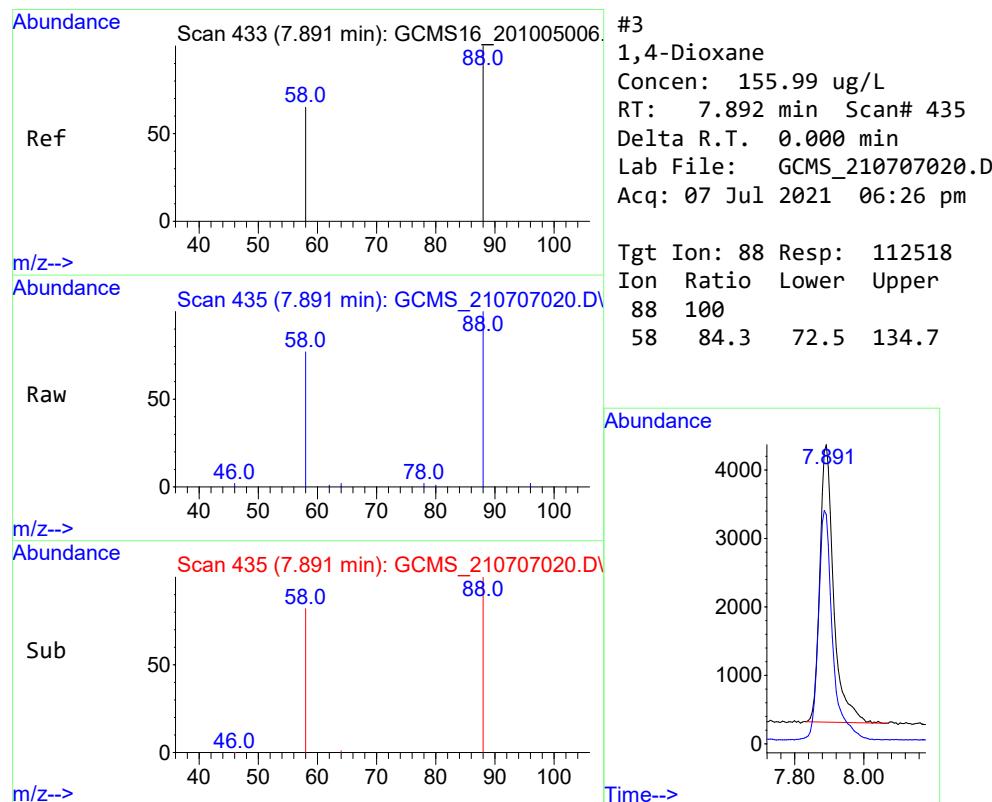
Tgt Ion: 46 Resp: 42530  
Ion Ratio Lower Upper  
46 100  
78 51.1 27.5 51.1  
80 52.2 29.0 53.9



#2  
**1,4-Dioxane-d8**  
Concen: 24.31 ug/L  
RT: 7.819 min Scan# 422  
Delta R.T. 0.005 min  
Lab File: GCMS\_210707020.D  
Acq: 07 Jul 2021 06:26 pm

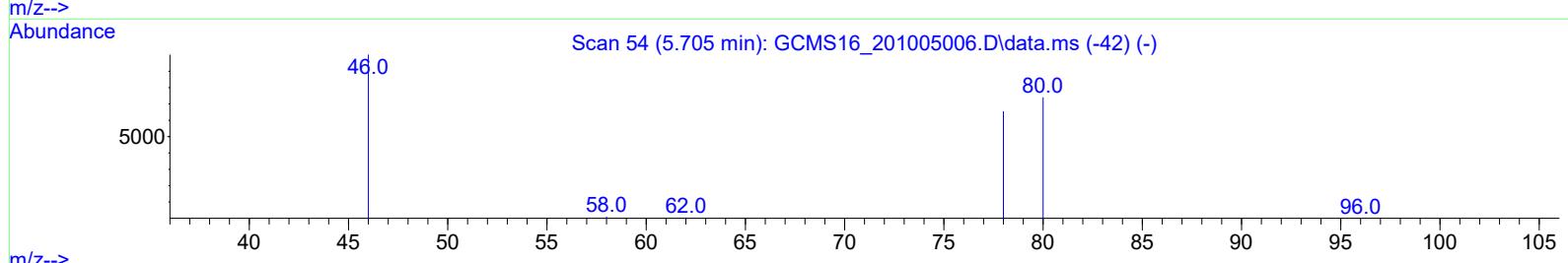
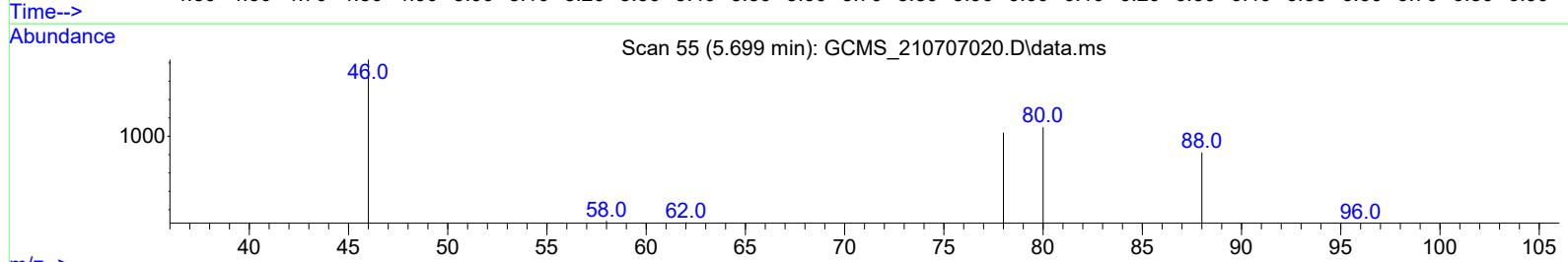
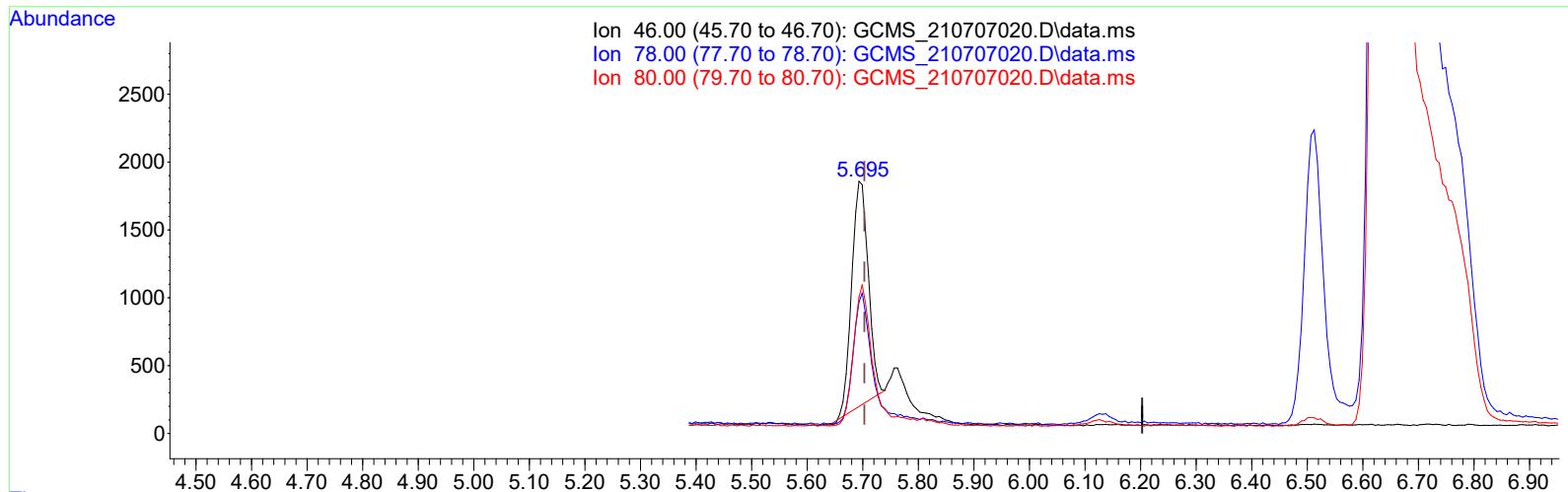
Tgt Ion: 96 Resp: 16655  
Ion Ratio Lower Upper  
96 100  
62 0.0 0.0 0.0  
64 73.6 56.8 105.6





Data Path : D:\MassHunter\GCMS\1\data\210707mak\  
 Data File : GCMS\_210707020.D  
 Acq On : 07 Jul 2021 06:26 pm  
 Operator :  
 Sample : E210602-04RE1  
 Misc :  
 ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jul 08 09:11:40 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210707020.D\data.ms

(1) TETRAHYDROFURAN-D8 (I)

5.698min (-0.005) 50.00 ug/L

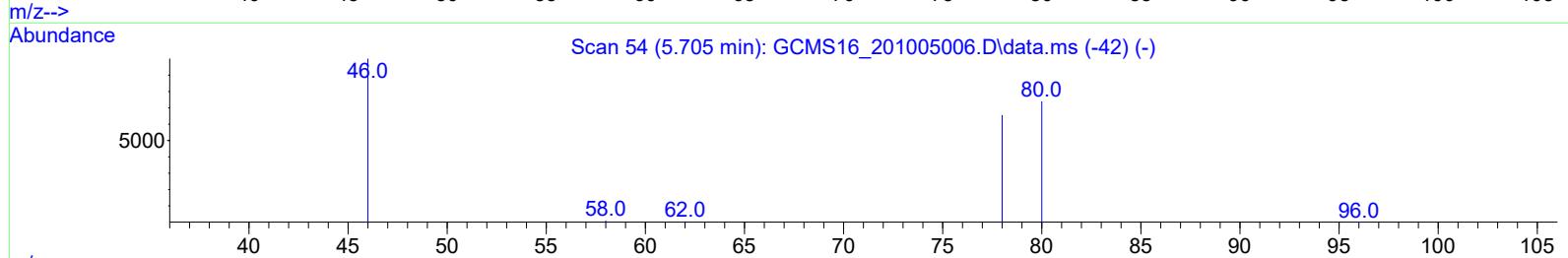
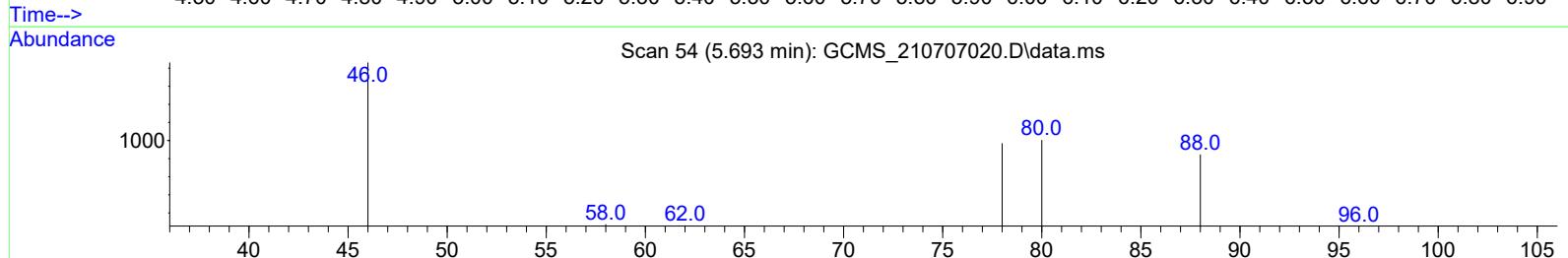
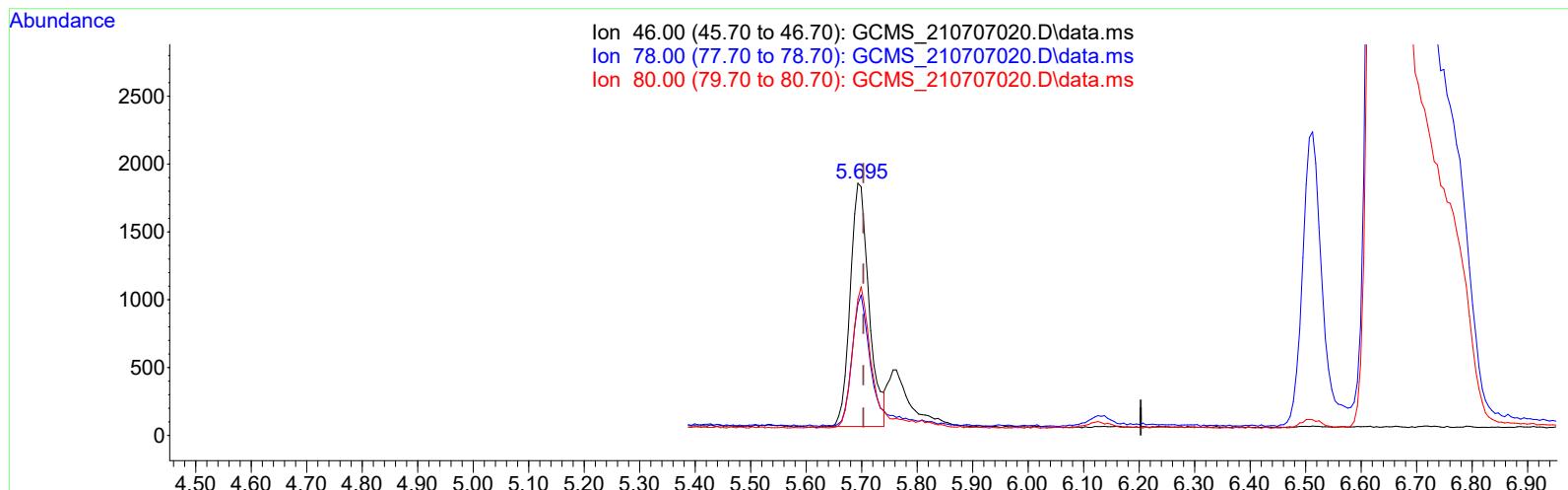
response 33902 Before I,B MAK 8/13/2021

Ion	Exp%	Act%
46.00	100.00	100.00
78.00	39.30	64.05#
80.00	41.50	65.45#
0.00	0.00	0.00

## Quantitation Report (Qedit)

Data Path : J:\Southeast Rockford Groundwater\4. MS\E210602 and E210603 14diox\Templates\GCMS16\Data\210707mak\  
 Data File : GCMS\_210707020.D  
 Acq On : 07 Jul 2021 06:26 pm  
 Operator :  
 Sample : E210602-04RE1  
 Misc :  
 ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jul 08 09:11:40 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624.mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210707020.D\data.ms

## (1) TETRAHYDROFURAN-D8 (I)

5.693min (-0.010) 50.00 ug/L m

response 42530

Ion	Exp%	Act%	
46.00	100.00	100.00	After MAK 8/13/2021
78.00	39.30	51.06	
80.00	41.50	52.17	
0.00	0.00	0.00	

REVIEWED  
 By Bruce Gallant at 8:51 am, Aug 17, 2021

Data Path : D:\MassHunter\Data\210707mak\  
Data File : GCMS\_210707021.D  
Acq On : 07 Jul 2021 06:47 pm  
Operator :  
Sample : E210602-05RE1  
Misc :  
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jul 08 09:11:42 2021

Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M

Quant Title : Initial Calibration of 1,4-Dioxane 021317

QLast Update : Thu Jun 24 15:10:43 2021

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	5.693	46	40155m	50.00	ug/L	-0.01
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	7.815	96	16610	25.68	ug/L	0.00
<hr/>						
Target Compounds				Qvalue		
3) 1,4-Dioxane	7.890	88	152414	223.80	ug/L	80
<hr/>						

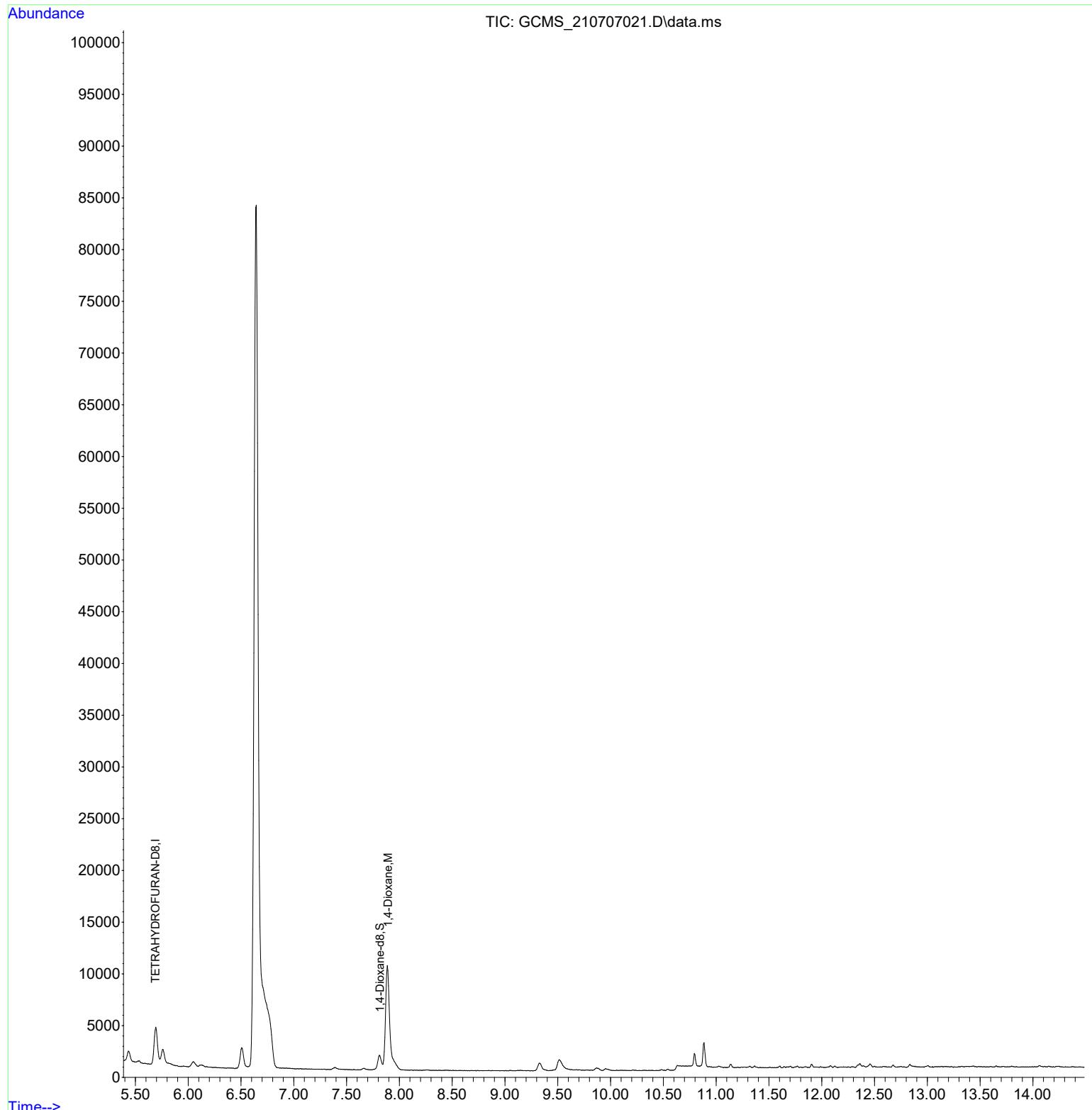
(#) = qualifier out of range (m) = manual integration (+) = signals summed

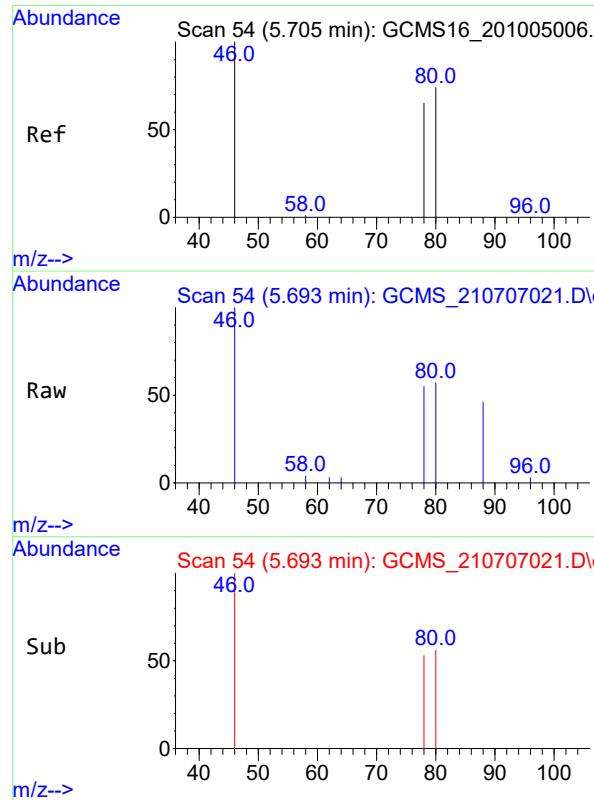
MAK 8/13/2021

REVIEWED  
By Bruce Gallant at 8:52 am, Aug 17, 2021

Data Path : D:\MassHunter\Data\210707mak\  
Data File : GCMS\_210707021.D  
Acq On : 07 Jul 2021 06:47 pm  
Operator :  
Sample : E210602-05RE1  
Misc :  
ALS Vial : 12 Sample Multiplier: 1

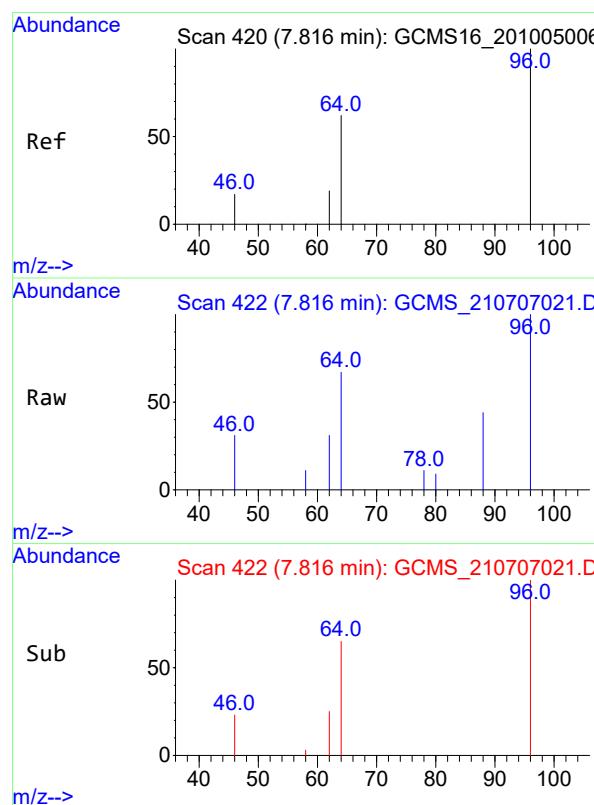
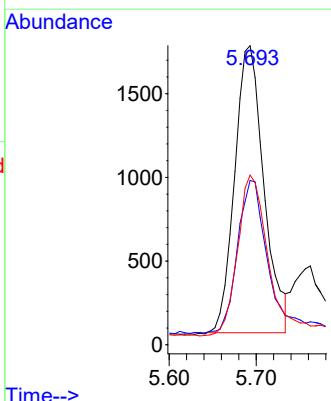
Quant Time: Jul 08 09:11:42 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration





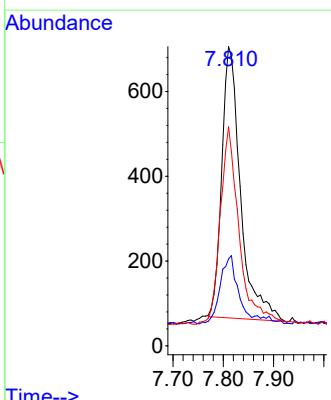
#1  
TETRAHYDROFURAN-D8  
Concen: 50.00 ug/L m  
RT: 5.693 min Scan# 54  
Delta R.T. -0.010 min  
Lab File: GCMS\_210707021.D  
Acq: 07 Jul 2021 06:47 pm

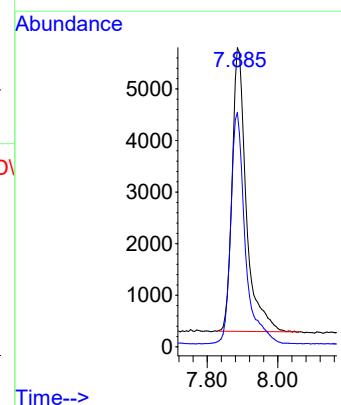
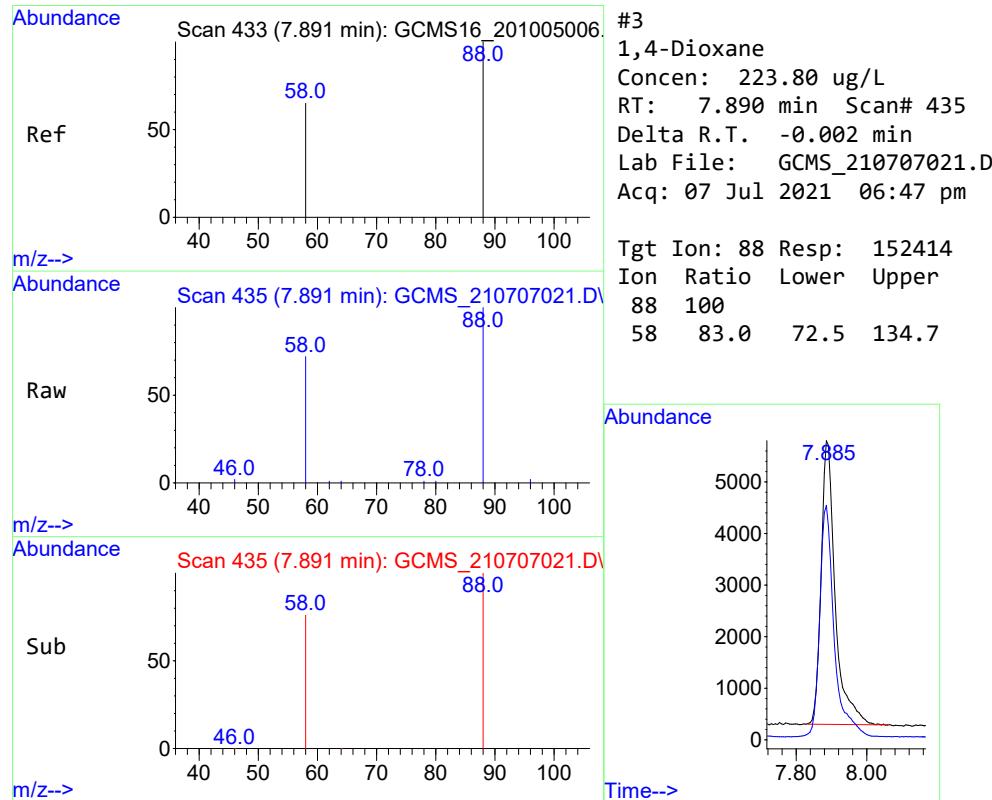
Tgt Ion: 46 Resp: 40155  
Ion Ratio Lower Upper  
46 100  
78 52.3 27.5 51.1#  
80 55.7 29.0 53.9#



#2  
1,4-Dioxane-d8  
Concen: 25.68 ug/L  
RT: 7.815 min Scan# 422  
Delta R.T. 0.001 min  
Lab File: GCMS\_210707021.D  
Acq: 07 Jul 2021 06:47 pm

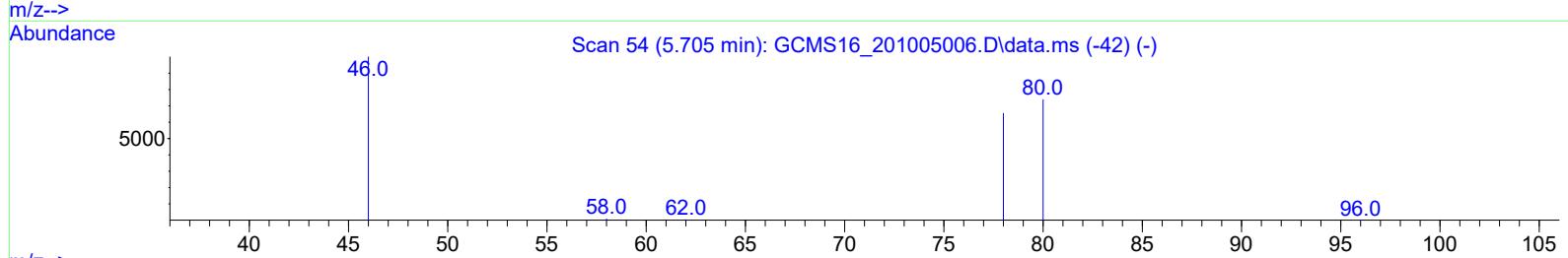
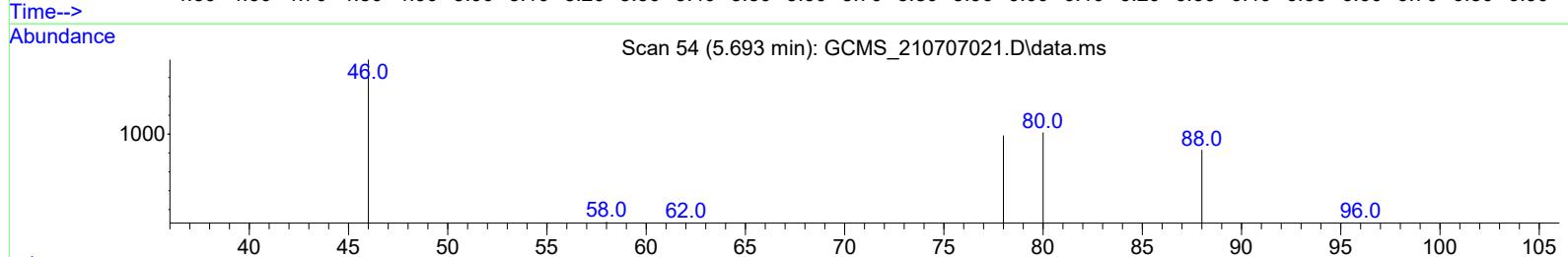
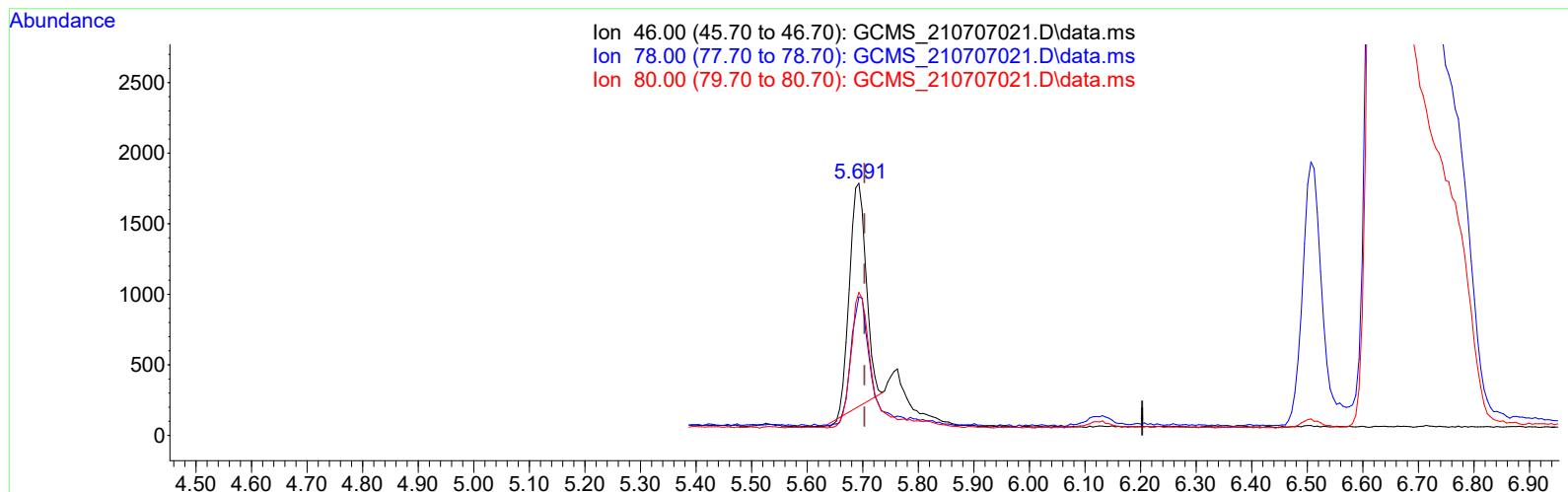
Tgt Ion: 96 Resp: 16610  
Ion Ratio Lower Upper  
96 100  
62 0.0 0.0 0.0  
64 70.3 56.8 105.6





Data Path : D:\MassHunter\GCMS\1\data\210707mak\  
 Data File : GCMS\_210707021.D  
 Acq On : 07 Jul 2021 06:47 pm  
 Operator :  
 Sample : E210602-05RE1  
 Misc :  
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jul 08 09:11:42 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210707021.D\data.ms

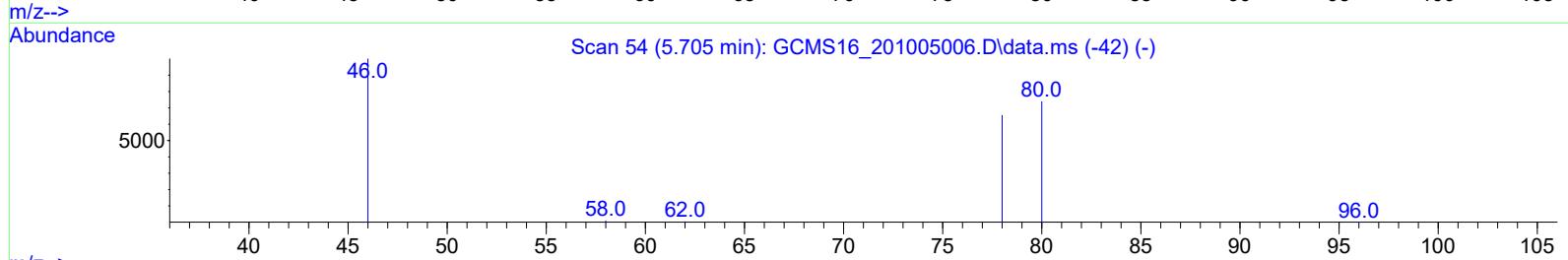
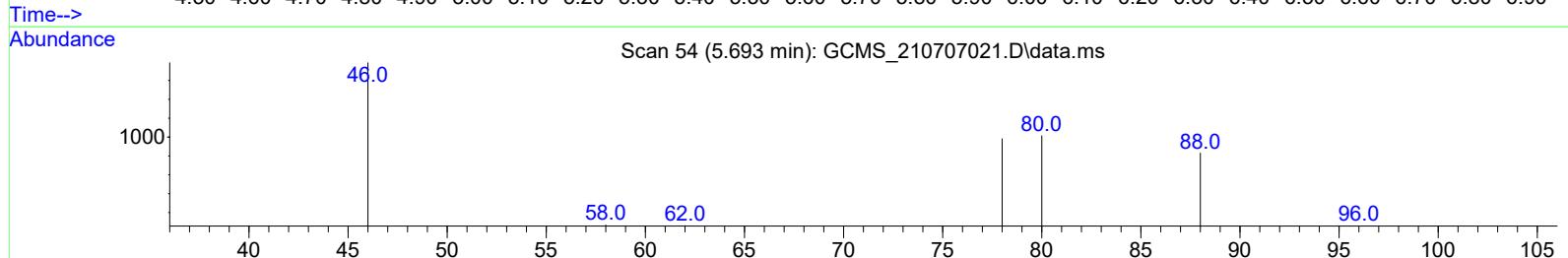
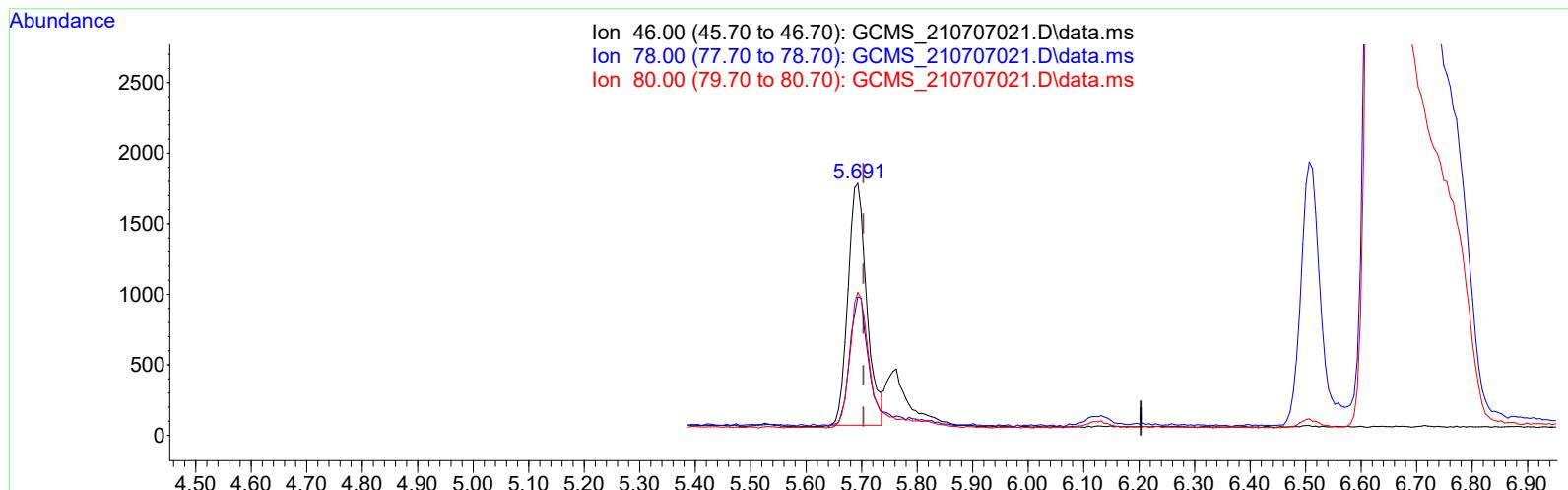
(1) TETRAHYDROFURAN-D8 (I)  
 5.693min (-0.010) 50.00 ug/L

response	32487	Before I,B MAK 8/13/2021
Ion	Exp%	Act%
46.00	100.00	100.00
78.00	39.30	64.63#
80.00	41.50	68.80#
0.00	0.00	0.00

## Quantitation Report (Qedit)

Data Path : J:\Southeast Rockford Groundwater\4. MS\E210602 and E210603 14diox\Templates\GCMS16\Data\210707mak\  
 Data File : GCMS\_210707021.D  
 Acq On : 07 Jul 2021 06:47 pm  
 Operator :  
 Sample : E210602-05RE1  
 Misc :  
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jul 08 09:11:42 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624.mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210707021.D\data.ms

(1) TETRAHYDROFURAN-D8 (I)

5.693min (-0.010) 50.00 ug/L m

response 40155

After MAK 8/13/2021

Ion	Exp%	Act%
46.00	100.00	100.00
78.00	39.30	52.29#
80.00	41.50	55.67#
0.00	0.00	0.00

REVIEWED  
 By Bruce Gallant at 8:53 am, Aug 17, 2021

Data Path : D:\MassHunter\Data\210707mak\  
Data File : GCMS\_210707022.D  
Acq On : 07 Jul 2021 07:08 pm  
Operator :  
Sample : E210602-06RE1  
Misc :  
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jul 08 09:11:44 2021

Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M

Quant Title : Initial Calibration of 1,4-Dioxane 021317

QLast Update : Thu Jun 24 15:10:43 2021

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	5.693	46	36775m	50.00	ug/L	-0.01
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	7.816	96	14816	25.01	ug/L	0.00
<hr/>						
Target Compounds				Qvalue		
3) 1,4-Dioxane	7.892	88	163183	261.63	ug/L	80
<hr/>						

(#) = qualifier out of range (m) = manual integration (+) = signals summed

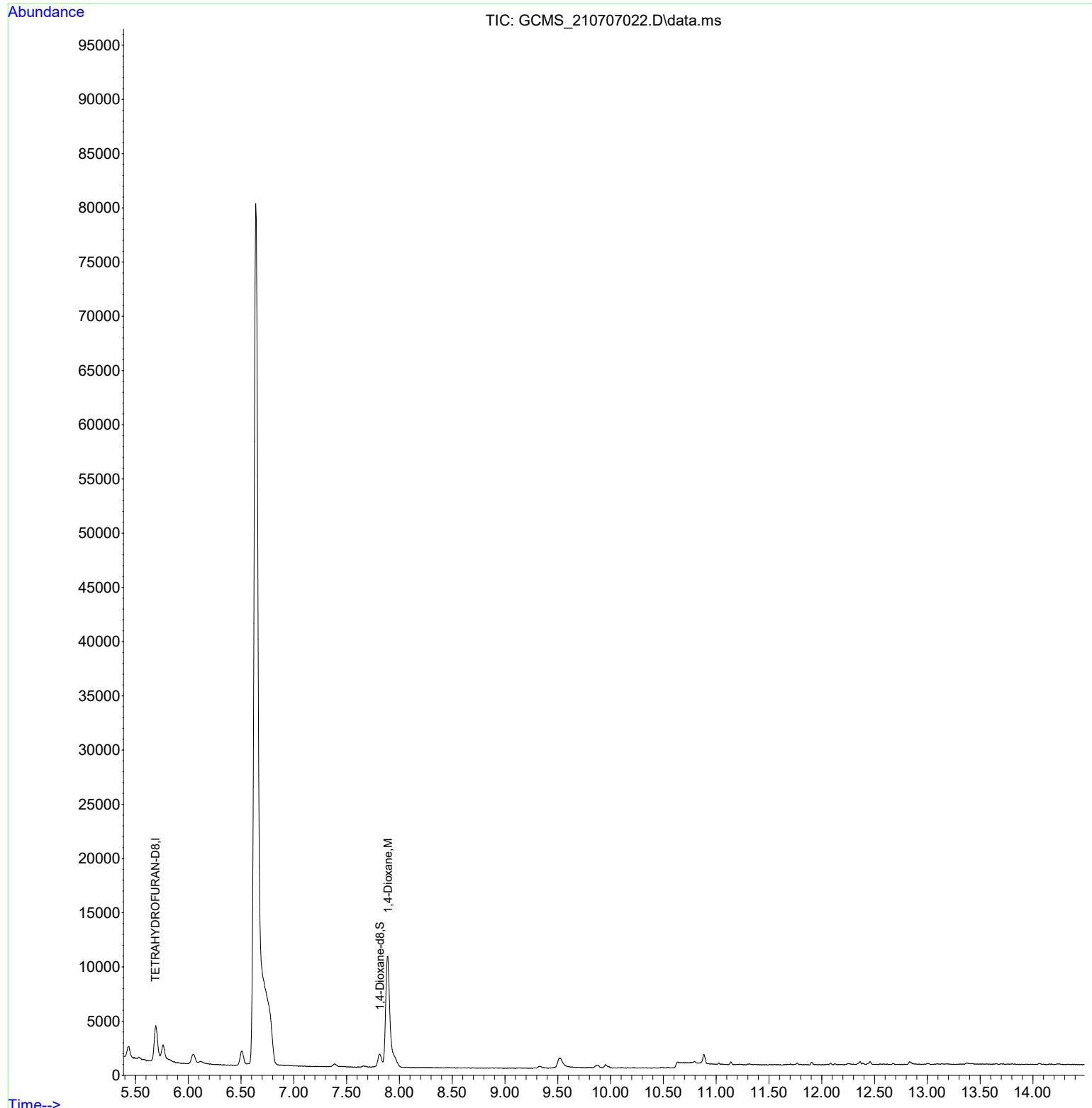
MAK 8/13/2021

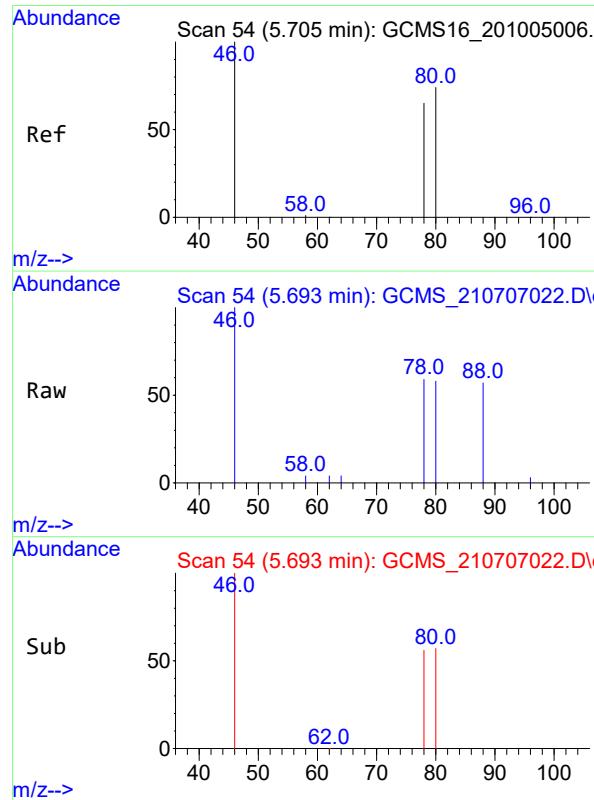
REVIEWED

By Bruce Gallant at 8:53 am, Aug 17, 2021

Data Path : D:\MassHunter\Data\210707mak\  
Data File : GCMS\_210707022.D  
Acq On : 07 Jul 2021 07:08 pm  
Operator :  
Sample : E210602-06RE1  
Misc :  
ALS Vial : 13 Sample Multiplier: 1

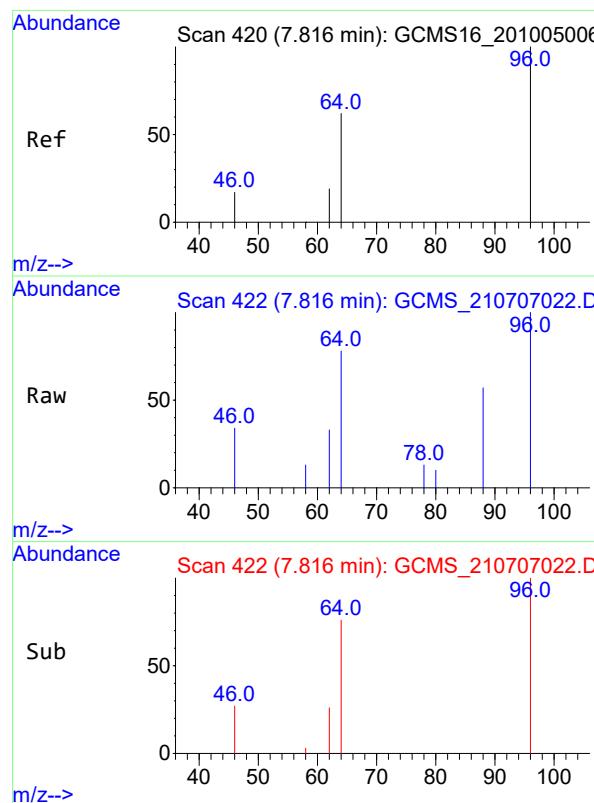
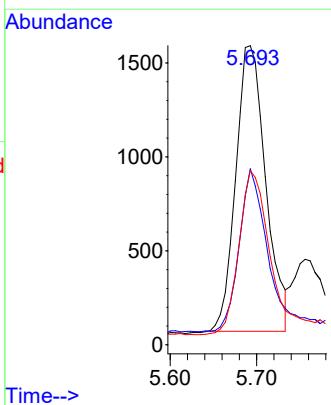
Quant Time: Jul 08 09:11:44 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration





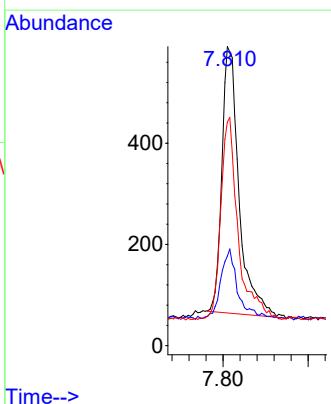
#1  
TETRAHYDROFURAN-D8  
Concen: 50.00 ug/L m  
RT: 5.693 min Scan# 54  
Delta R.T. -0.010 min  
Lab File: GCMS\_210707022.D  
Acq: 07 Jul 2021 07:08 pm

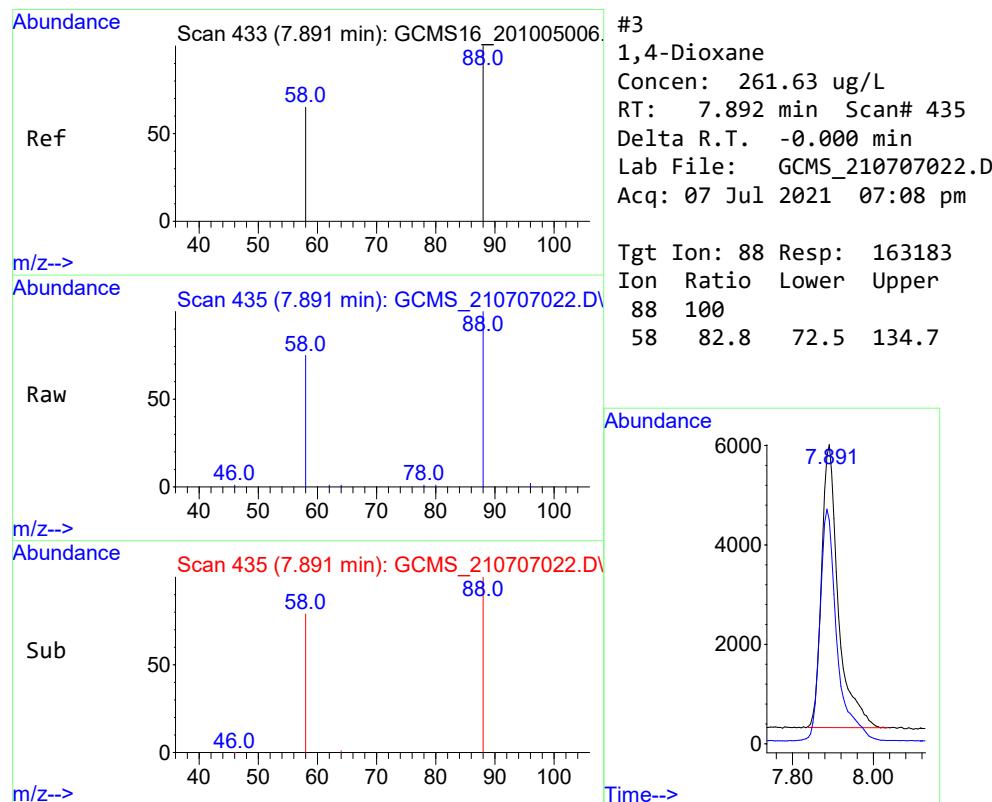
Tgt Ion: 46 Resp: 36775  
Ion Ratio Lower Upper  
46 100  
78 53.9 27.5 51.1#  
80 55.8 29.0 53.9#



#2  
1,4-Dioxane-d8  
Concen: 25.01 ug/L  
RT: 7.816 min Scan# 422  
Delta R.T. 0.002 min  
Lab File: GCMS\_210707022.D  
Acq: 07 Jul 2021 07:08 pm

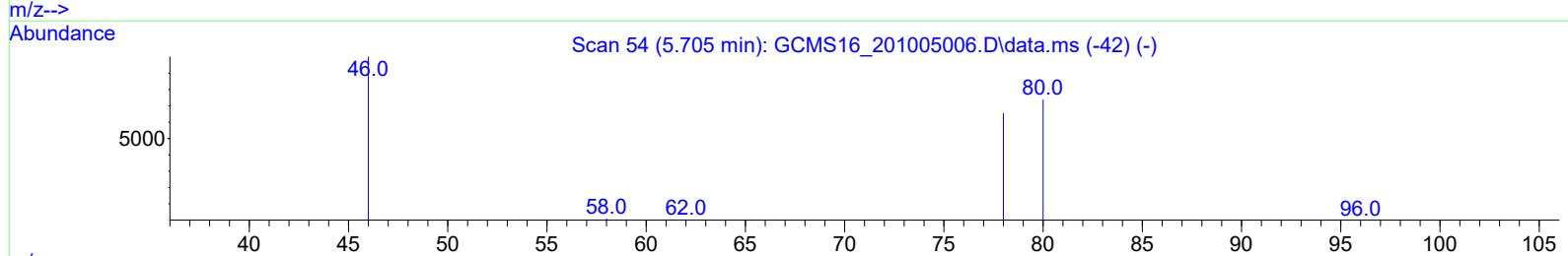
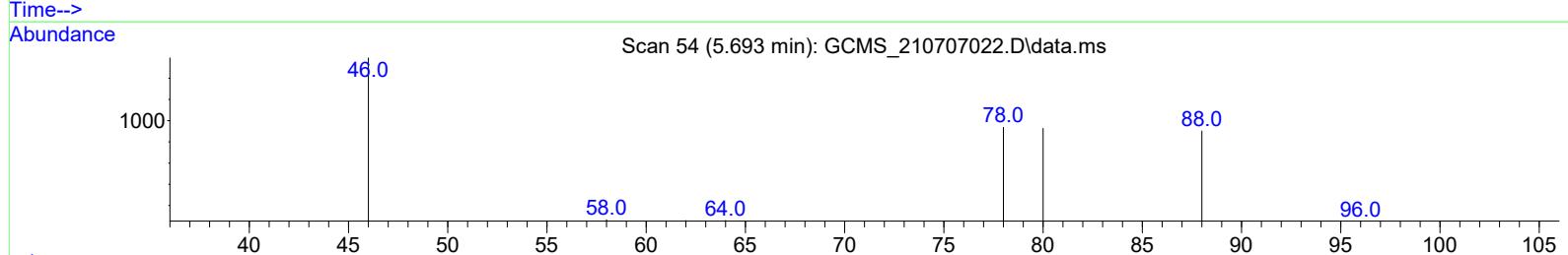
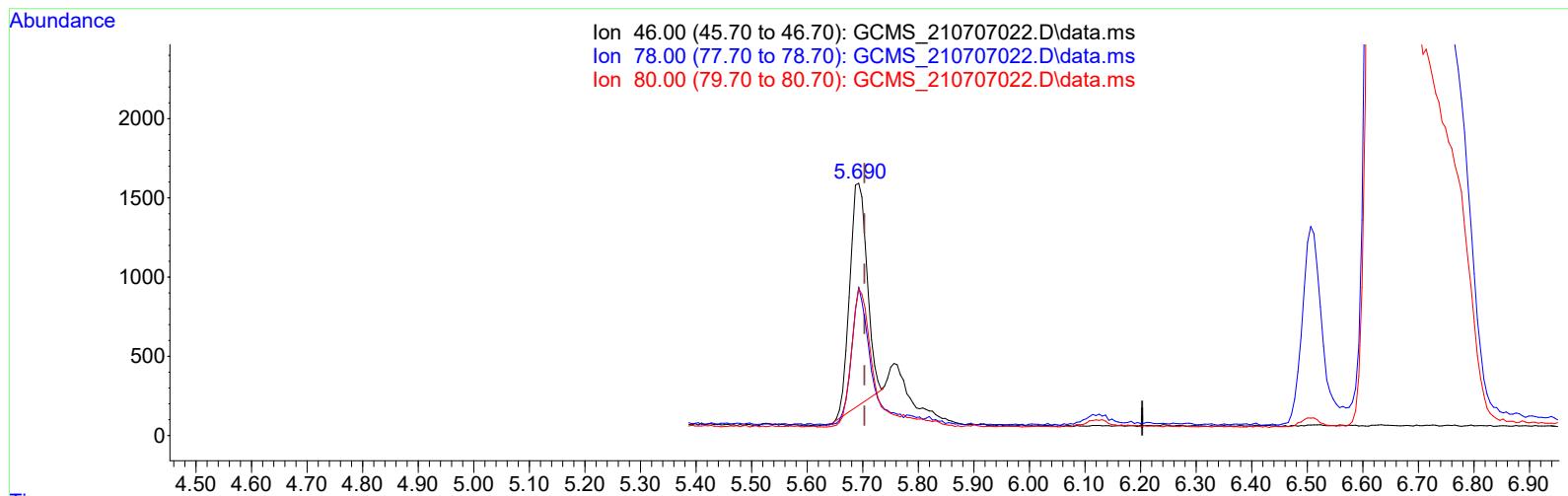
Tgt Ion: 96 Resp: 14816  
Ion Ratio Lower Upper  
96 100  
62 0.0 0.0 0.0  
64 72.6 56.8 105.6





Data Path : D:\MassHunter\GCMS\1\data\210707mak\  
 Data File : GCMS\_210707022.D  
 Acq On : 07 Jul 2021 07:08 pm  
 Operator :  
 Sample : E210602-06RE1  
 Misc :  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jul 08 09:11:44 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210707022.D\data.ms

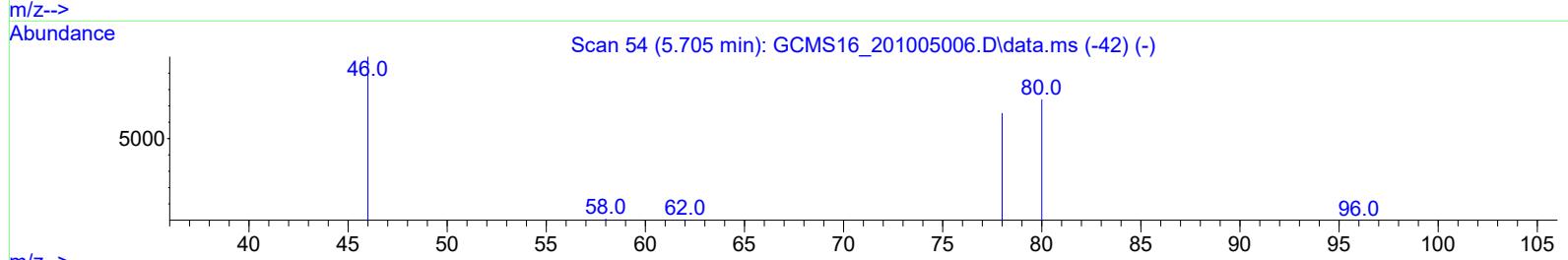
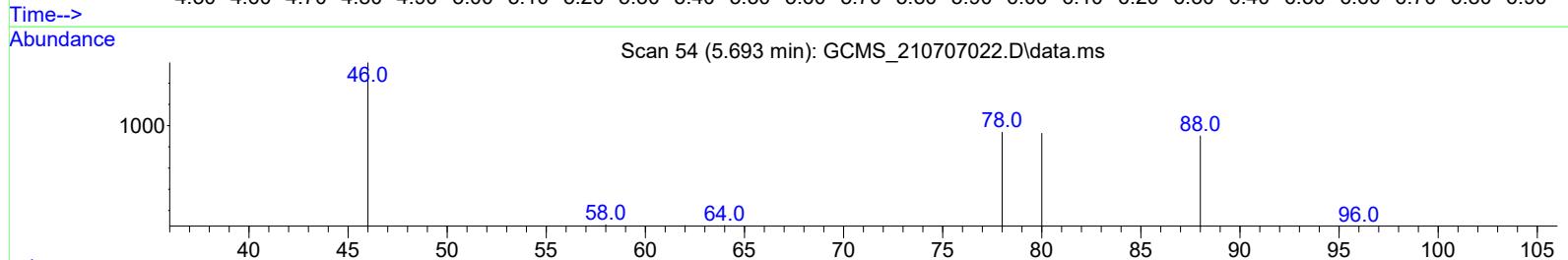
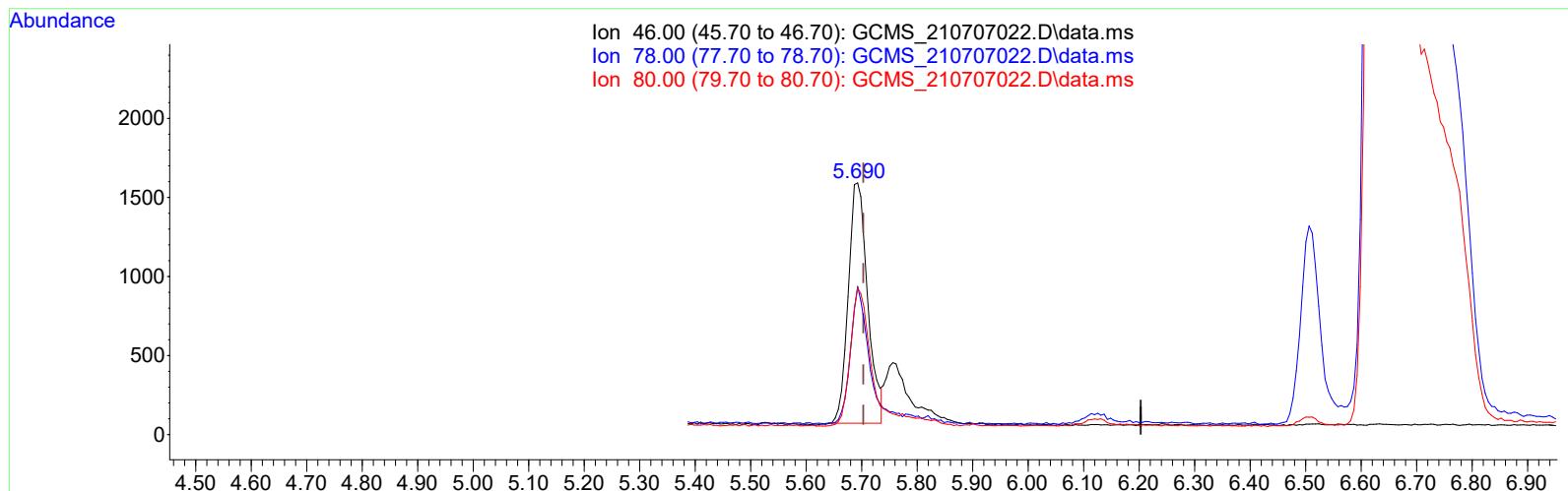
(1) TETRAHYDROFURAN-D8 (I)  
 5.694min (-0.009) 50.00 ug/L

response	30103		
Ion	Exp%	Act%	Before I, B MAK 8/13/2021
46.00	100.00	100.00	
78.00	39.30	65.86#	
80.00	41.50	68.16#	
0.00	0.00	0.00	

## Quantitation Report (Qedit)

Data Path : J:\Southeast Rockford Groundwater\4. MS\E210602 and E210603 14diox\Templates\GCMS16\Data\210707mak\  
 Data File : GCMS\_210707022.D  
 Acq On : 07 Jul 2021 07:08 pm  
 Operator :  
 Sample : E210602-06RE1  
 Misc :  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jul 08 09:11:44 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624.mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210707022.D\data.ms

(1) TETRAHYDROFURAN-D8 (I)

5.693min (-0.010) 50.00 ug/L m

response 36775

Ion	Exp%	Act%
46.00	100.00	100.00
78.00	39.30	53.91#
80.00	41.50	55.79#
0.00	0.00	0.00

After MAK 8/13/2021

REVIEWED  
 By Bruce Gallant at 8:53 am, Aug 17, 2021

Data Path : D:\MassHunter\Data\210707mak\  
Data File : GCMS\_210707023.D  
Acq On : 07 Jul 2021 07:29 pm  
Operator :  
Sample : E210602-07RE1  
Misc :  
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jul 08 09:11:46 2021

Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M

Quant Title : Initial Calibration of 1,4-Dioxane 021317

QLast Update : Thu Jun 24 15:10:43 2021

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	5.687	46	35202m	50.00	ug/L	-0.02
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	7.818	96	15301	26.99	ug/L	0.00
<hr/>						
Target Compounds				Qvalue		
3) 1,4-Dioxane	0.000		0	N.D.		
<hr/>						

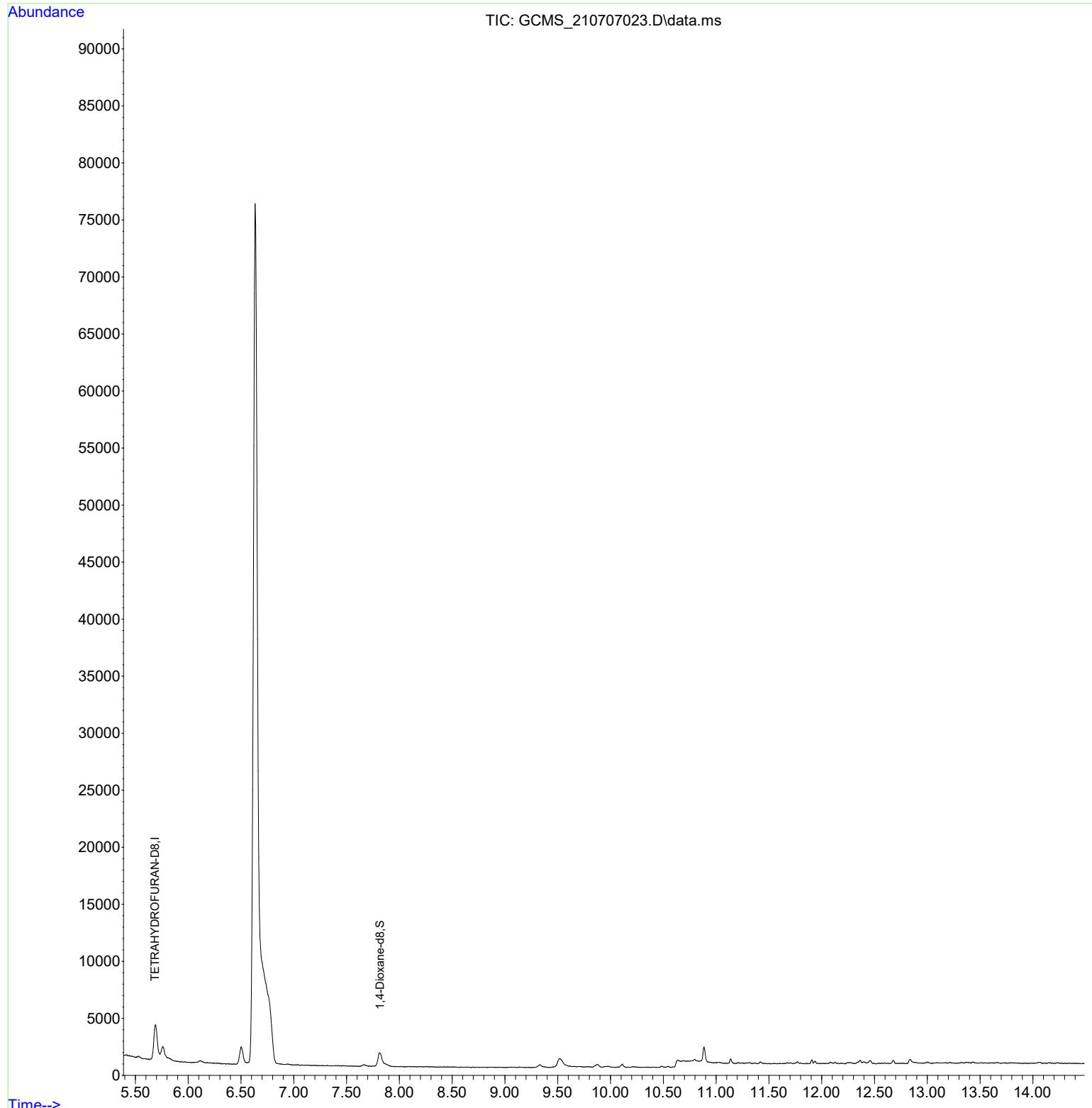
(#) = qualifier out of range (m) = manual integration (+) = signals summed

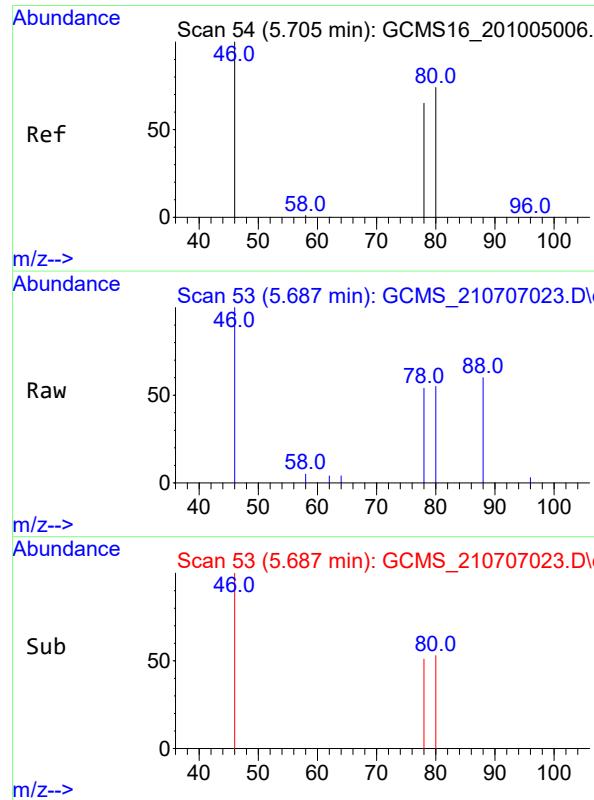
MAK 8/13/2021

REVIEWED  
By Bruce Gallant at 8:54 am, Aug 17, 2021

Data Path : D:\MassHunter\Data\210707mak\  
Data File : GCMS\_210707023.D  
Acq On : 07 Jul 2021 07:29 pm  
Operator :  
Sample : E210602-07RE1  
Misc :  
ALS Vial : 14 Sample Multiplier: 1

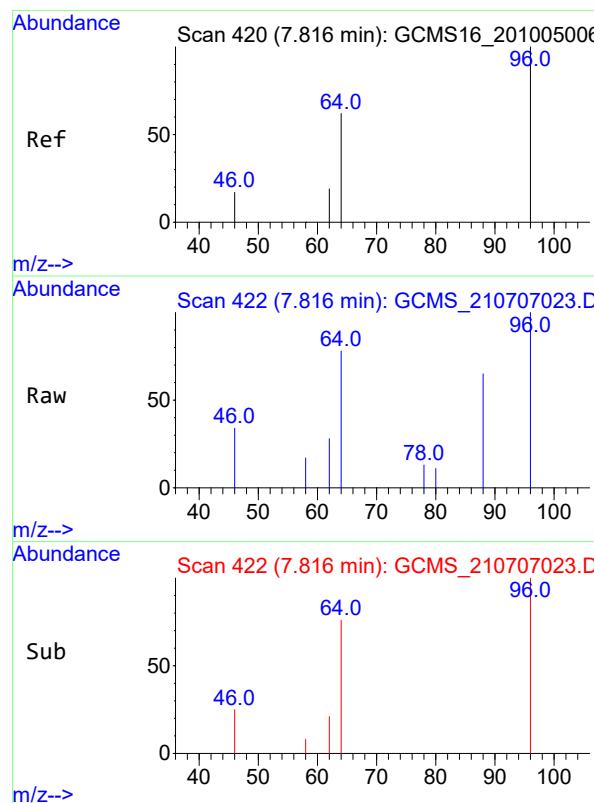
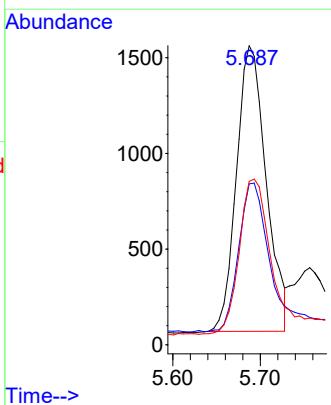
Quant Time: Jul 08 09:11:46 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration





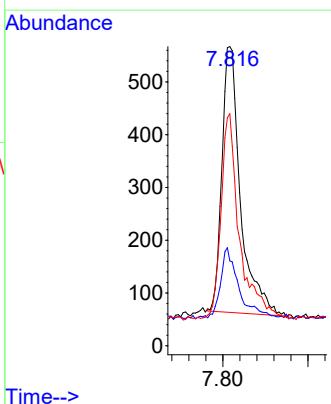
#1  
TETRAHYDROFURAN-D8  
Concen: 50.00 ug/L m  
RT: 5.687 min Scan# 53  
Delta R.T. -0.016 min  
Lab File: GCMS\_210707023.D  
Acq: 07 Jul 2021 07:29 pm

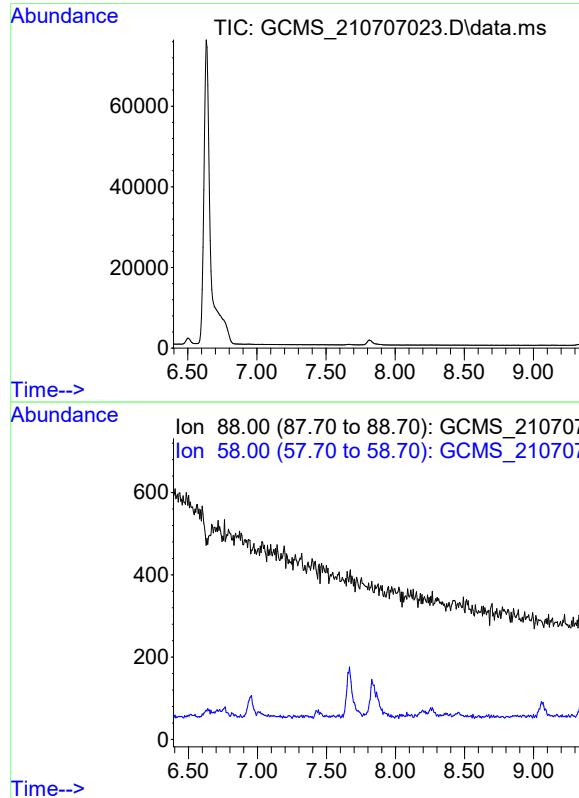
Tgt Ion: 46 Resp: 35202  
Ion Ratio Lower Upper  
46 100  
78 53.4 27.5 51.1#  
80 56.4 29.0 53.9#



#2  
1,4-Dioxane-d8  
Concen: 26.99 ug/L  
RT: 7.818 min Scan# 422  
Delta R.T. 0.004 min  
Lab File: GCMS\_210707023.D  
Acq: 07 Jul 2021 07:29 pm

Tgt Ion: 96 Resp: 15301  
Ion Ratio Lower Upper  
96 100  
62 0.0 0.0 0.0  
64 72.5 56.8 105.6

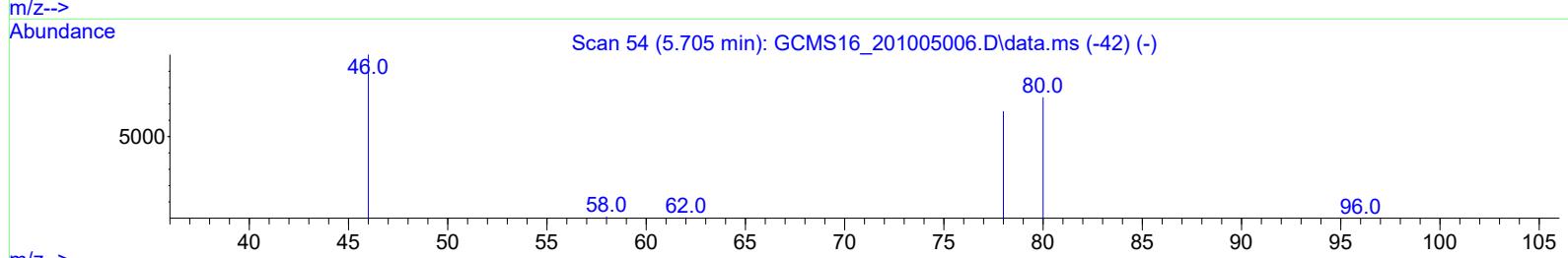
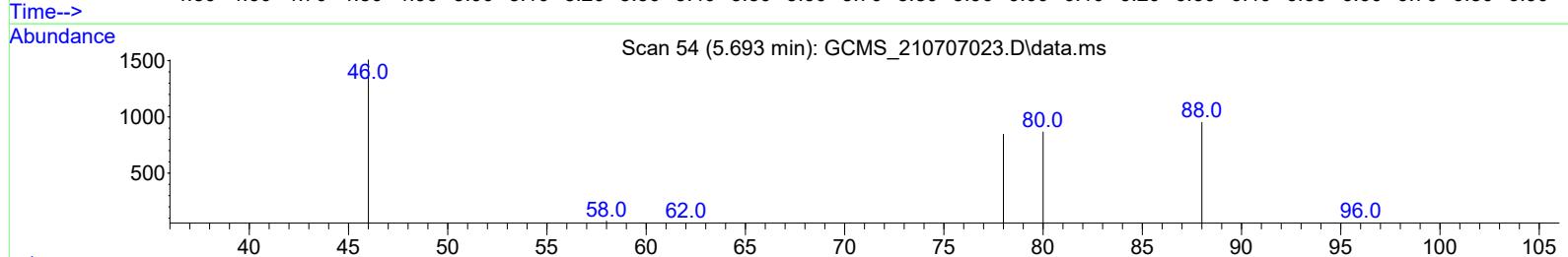
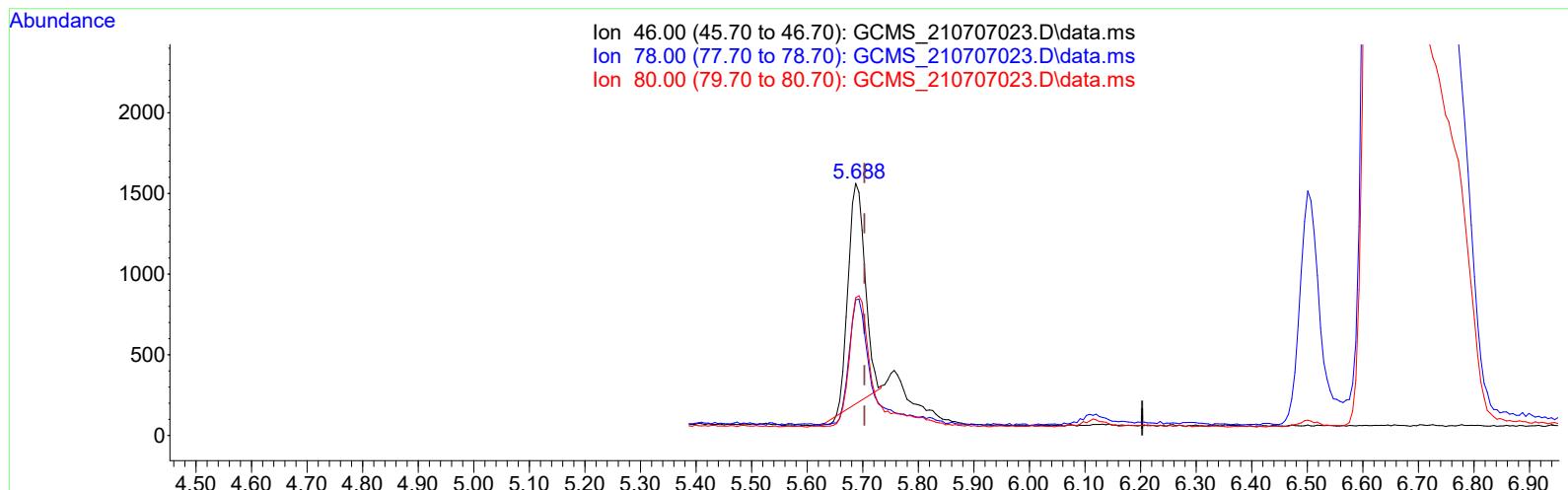




#3  
1,4-Dioxane  
Concen: N.D.  
Expected RT: 7.89 min  
  
Lab File: GCMS\_210707023.D  
Acq: 07 Jul 2021 07:29 pm  
  
Tgt Ion: 88  
Sig Exp Ratio  
88 100  
58 103.6

Data Path : D:\MassHunter\GCMS\1\data\210707mak\  
 Data File : GCMS\_210707023.D  
 Acq On : 07 Jul 2021 07:29 pm  
 Operator :  
 Sample : E210602-07RE1  
 Misc :  
 ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jul 08 09:11:46 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210707023.D\data.ms

(1) TETRAHYDROFURAN-D8 (I)  
 5.691min (-0.012) 50.00 ug/L

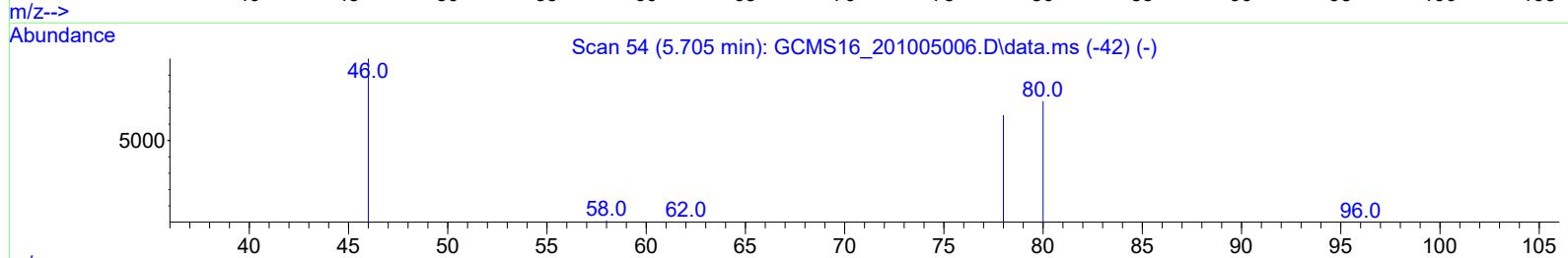
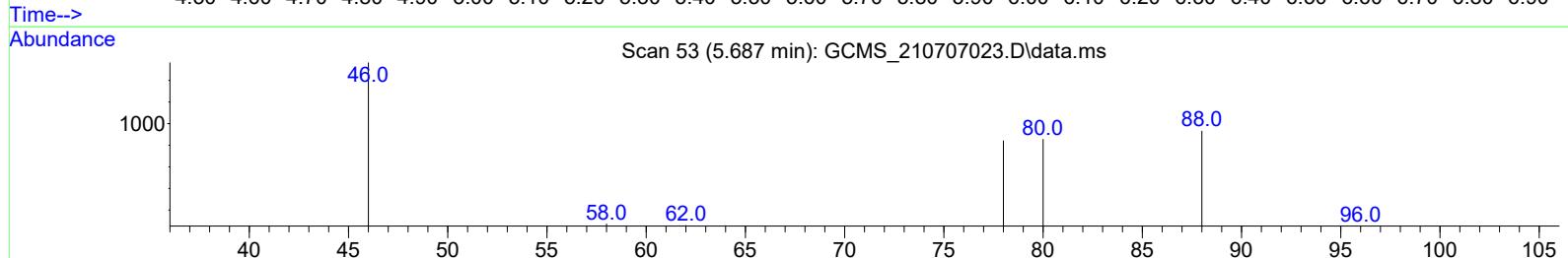
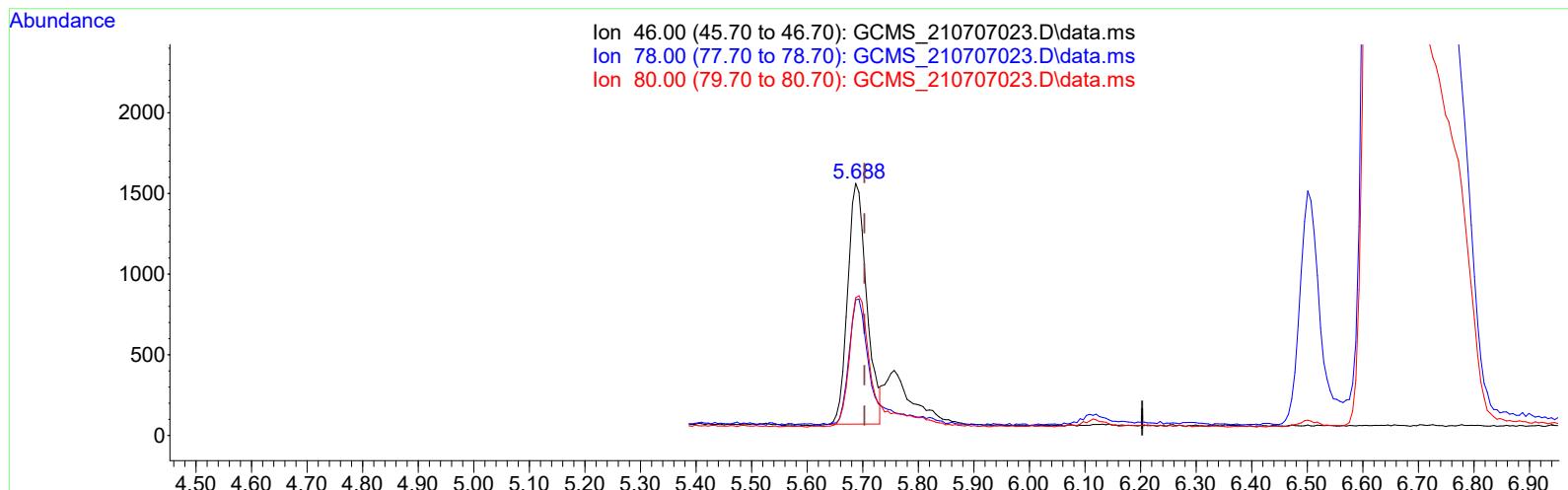
response 28139

Ion	Exp%	Act%	Before I,B MAK 8/13/2021
46.00	100.00	100.00	
78.00	39.30	66.83#	
80.00	41.50	70.52#	
0.00	0.00	0.00	

## Quantitation Report (Qedit)

Data Path : J:\Southeast Rockford Groundwater\4. MS\E210602 and E210603 14diox\Templates\GCMS16\Data\210707mak\  
 Data File : GCMS\_210707023.D  
 Acq On : 07 Jul 2021 07:29 pm  
 Operator :  
 Sample : E210602-07RE1  
 Misc :  
 ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jul 08 09:11:46 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624.mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210707023.D\data.ms

(1) TETRAHYDROFURAN-D8 (I)

5.687min (-0.016) 50.00 ug/L m

response 35202

After MAK 8/13/2021

Ion	Exp%	Act%
46.00	100.00	100.00
78.00	39.30	53.42#
80.00	41.50	56.37#
0.00	0.00	0.00

REVIEWED  
 By Bruce Gallant at 8:54 am, Aug 17, 2021

Data Path : D:\MassHunter\Data\210707mak\  
Data File : GCMS\_210707028.D  
Acq On : 07 Jul 2021 09:16 pm  
Operator :  
Sample : E210603-01RE1  
Misc :  
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Jul 08 09:11:56 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	5.705	46	51621m	50.00	ug/L	0.00
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	7.818	96	18865	22.69	ug/L	0.00
<hr/>						
Target Compounds				Qvalue		
3) 1,4-Dioxane	7.897	88	5569m	6.36	ug/L	
<hr/>						

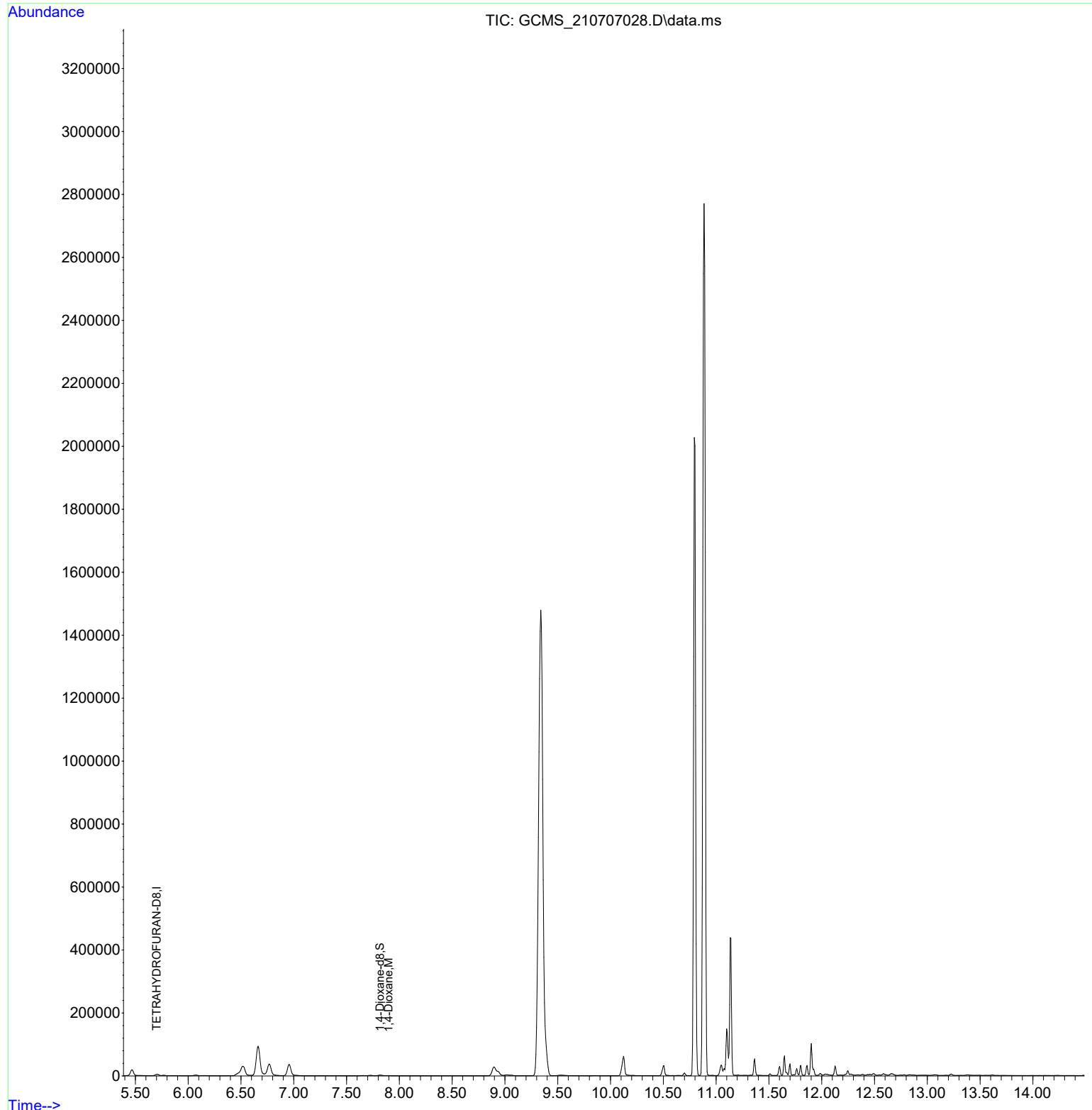
(#) = qualifier out of range (m) = manual integration (+) = signals summed

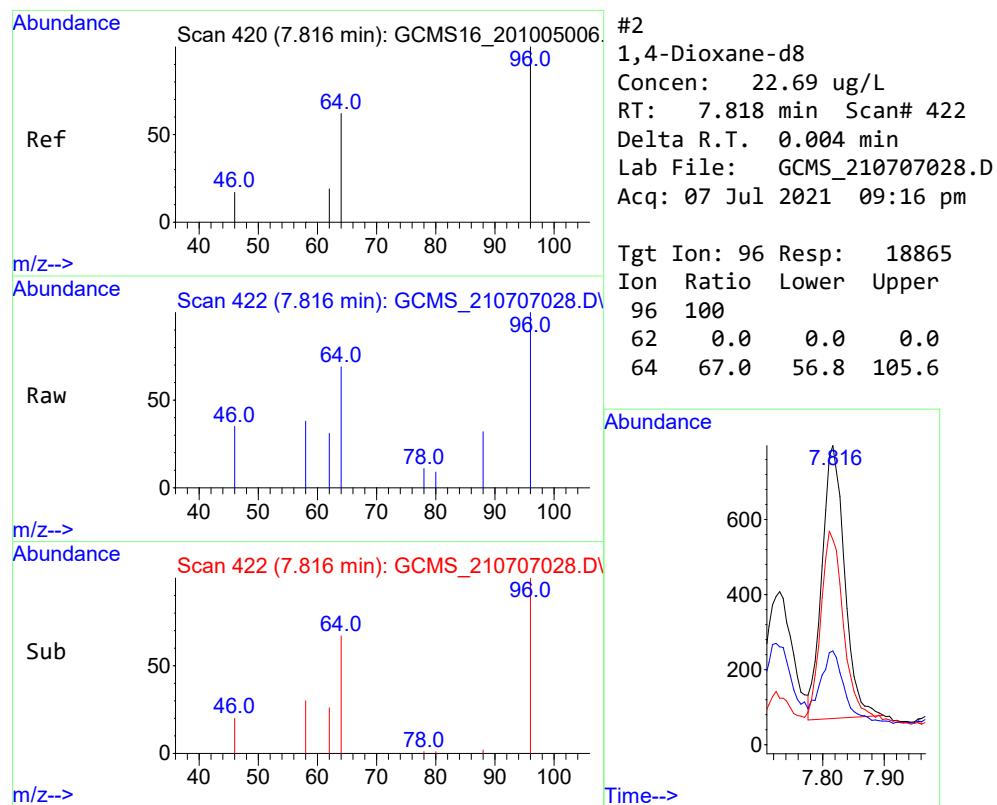
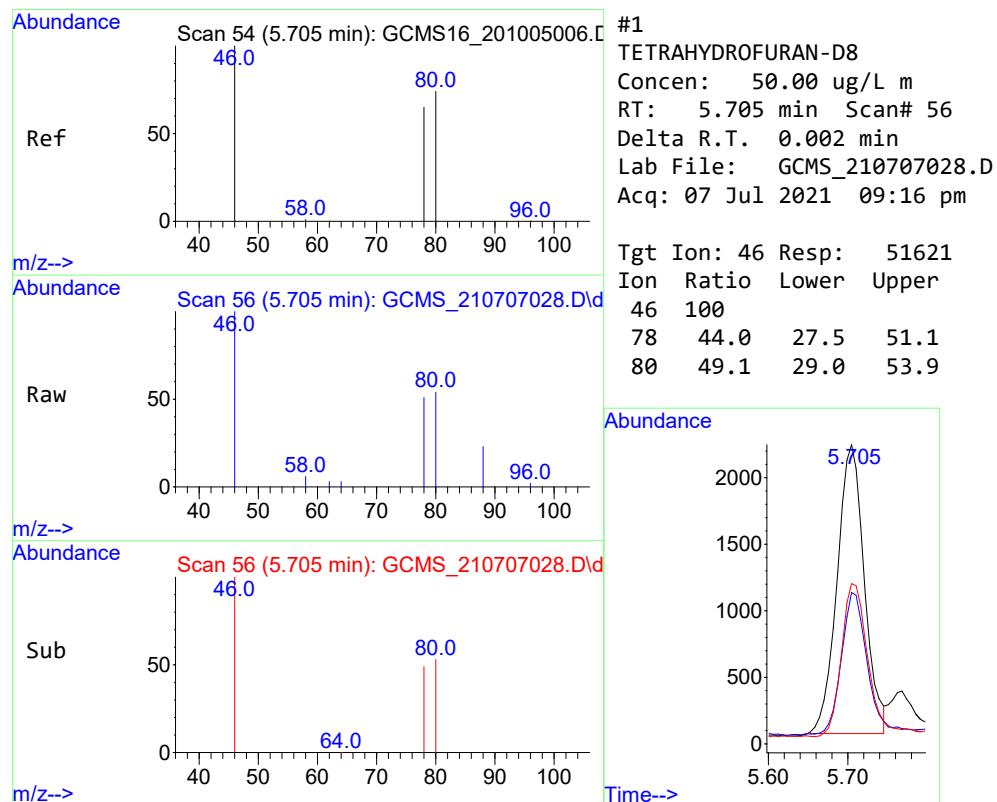
MAK 8/13/2021

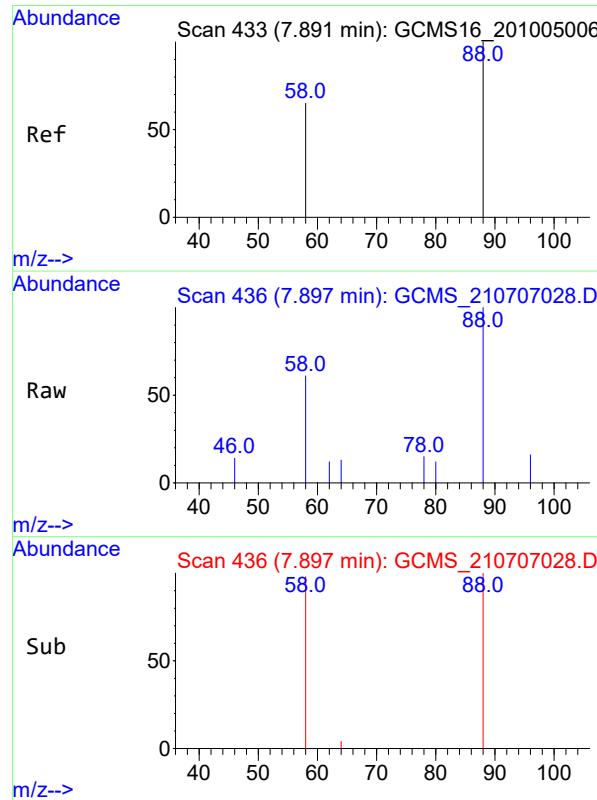
REVIEWED  
By Bruce Gallant at 8:54 am, Aug 17, 2021

Data Path : D:\MassHunter\Data\210707mak\  
Data File : GCMS\_210707028.D  
Acq On : 07 Jul 2021 09:16 pm  
Operator :  
Sample : E210603-01RE1  
Misc :  
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Jul 08 09:11:56 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration

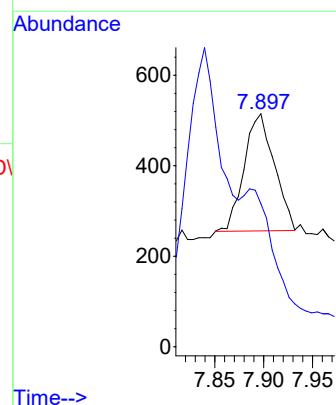






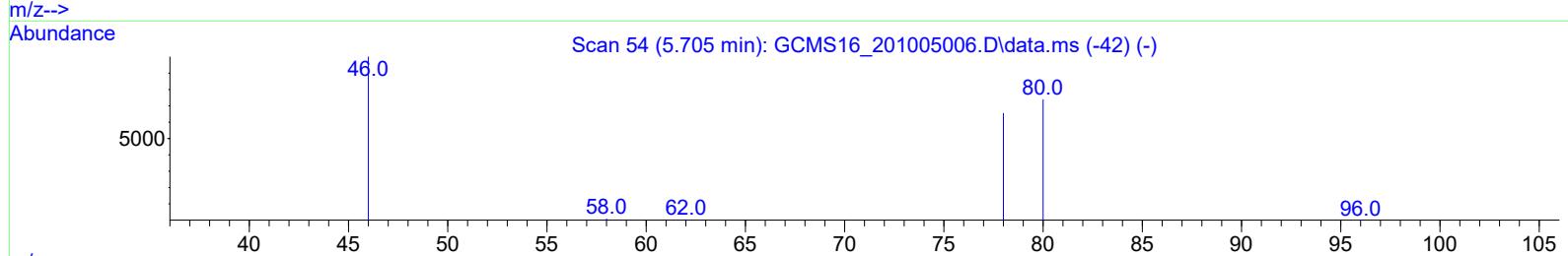
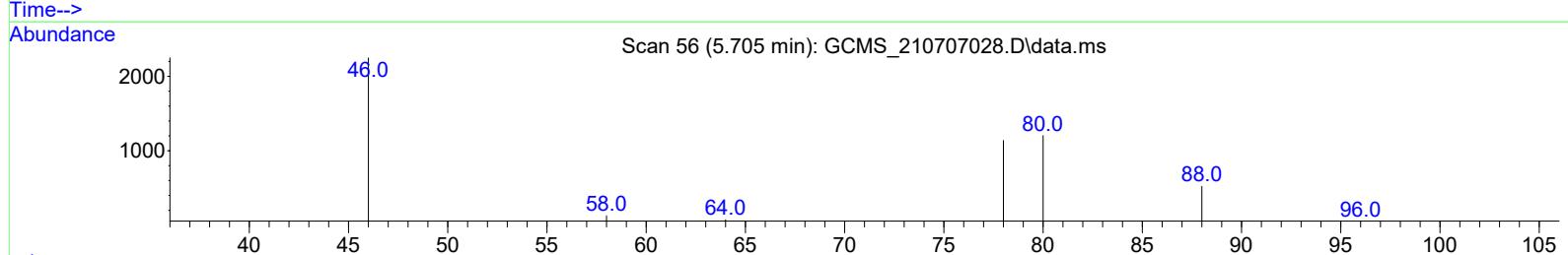
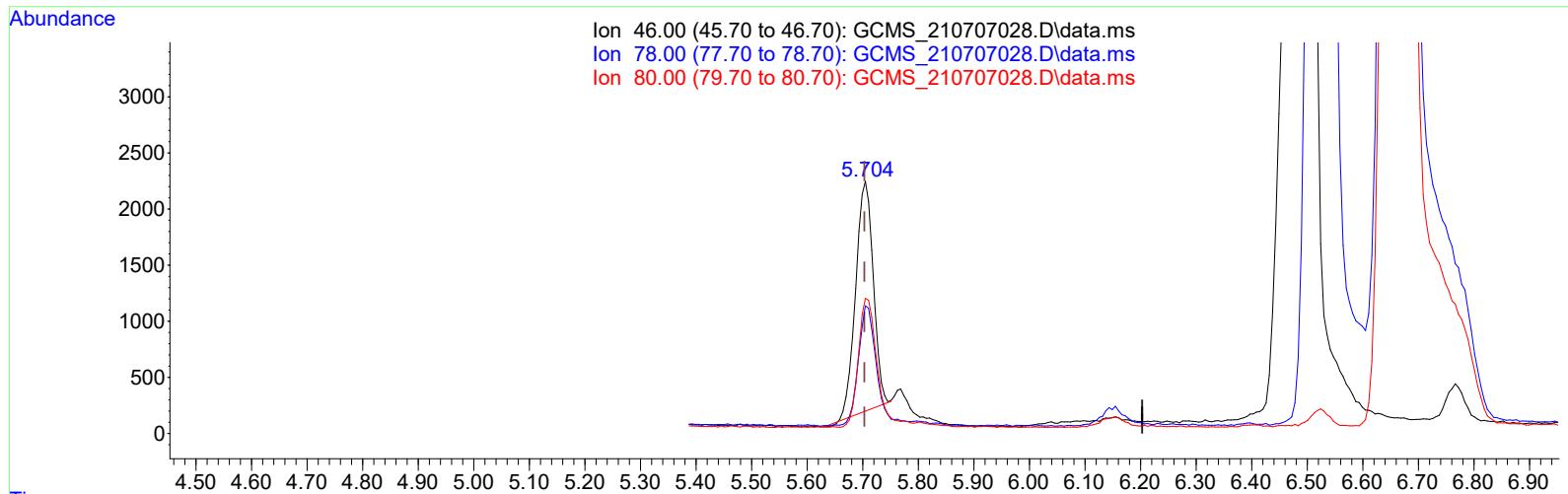
#3  
 1,4-Dioxane  
 Concen: 6.36 ug/L m  
 RT: 7.897 min Scan# 436  
 Delta R.T. 0.005 min  
 Lab File: GCMS\_210707028.D  
 Acq: 07 Jul 2021 09:16 pm

Tgt Ion: 88 Resp: 5569  
 Ion Ratio Lower Upper  
 88 100  
 58 0.0 72.5 134.7#



Data Path : D:\MassHunter\GCMS\1\data\210707mak\  
 Data File : GCMS\_210707028.D  
 Acq On : 07 Jul 2021 09:16 pm  
 Operator :  
 Sample : E210603-01RE1  
 Misc :  
 ALS Vial : 19 Sample Multiplier: 1

Quant Time: Jul 08 09:11:56 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210707028.D\data.ms

(1) TETRAHYDROFURAN-D8 (I)

5.706min (+ 0.003) 50.00 ug/L

response 44648

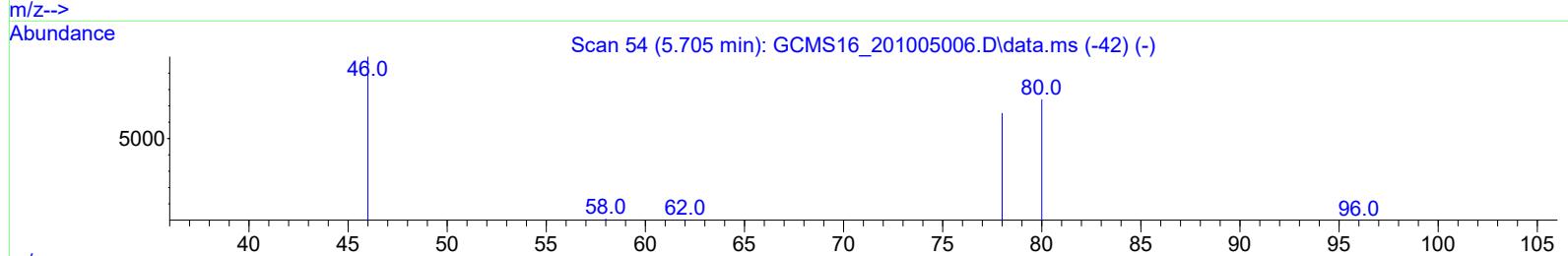
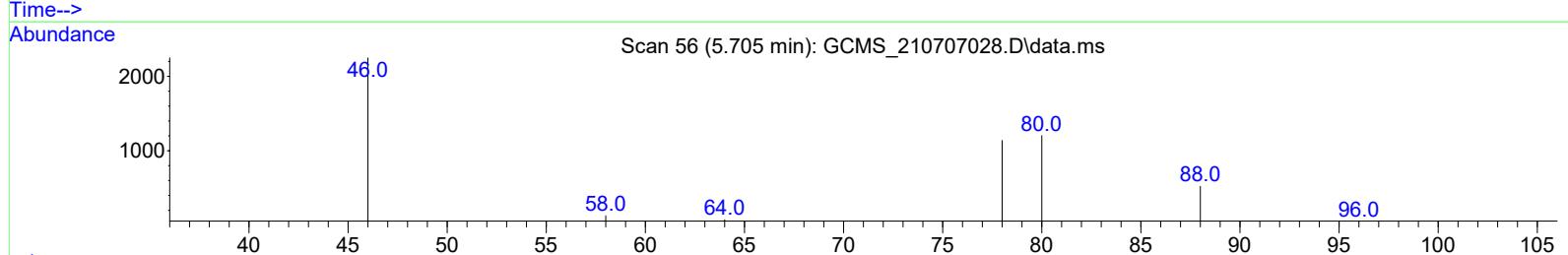
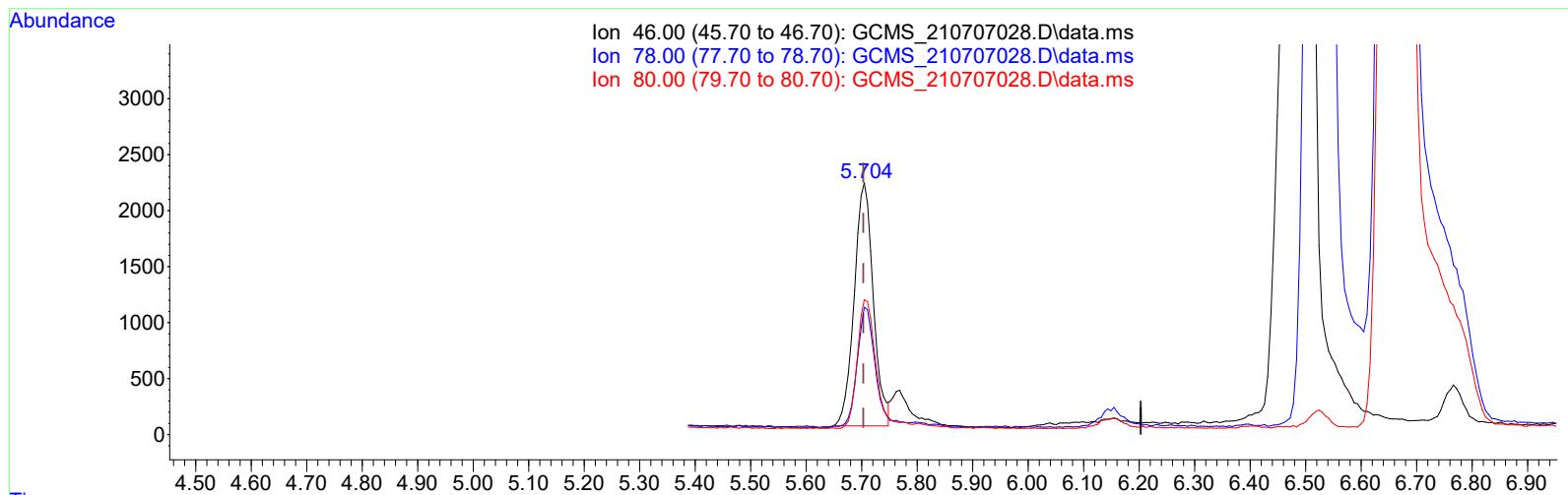
Before I,B MAK 8/13/2021

Ion	Exp%	Act%
46.00	100.00	100.00
78.00	39.30	50.92
80.00	41.50	56.72#
0.00	0.00	0.00

## Quantitation Report (Qedit)

Data Path : J:\Southeast Rockford Groundwater\4. MS\E210602 and E210603 14diox\Templates\GCMS16\Data\210707mak\  
 Data File : GCMS\_210707028.D  
 Acq On : 07 Jul 2021 09:16 pm  
 Operator :  
 Sample : E210603-01RE1  
 Misc :  
 ALS Vial : 19 Sample Multiplier: 1

Quant Time: Jul 08 09:11:56 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624.mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210707028.D\data.ms

## (1) TETRAHYDROFURAN-D8 (I)

5.705min (+ 0.002) 50.00 ug/L m

After MAK 8/13/2021

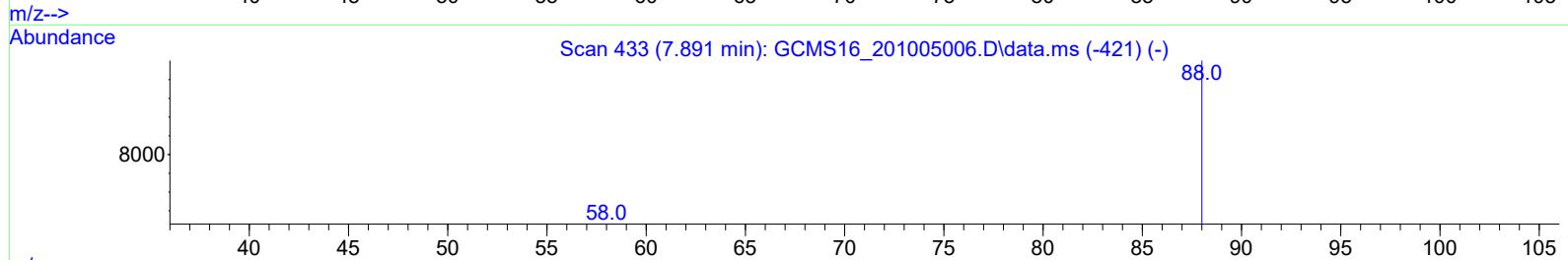
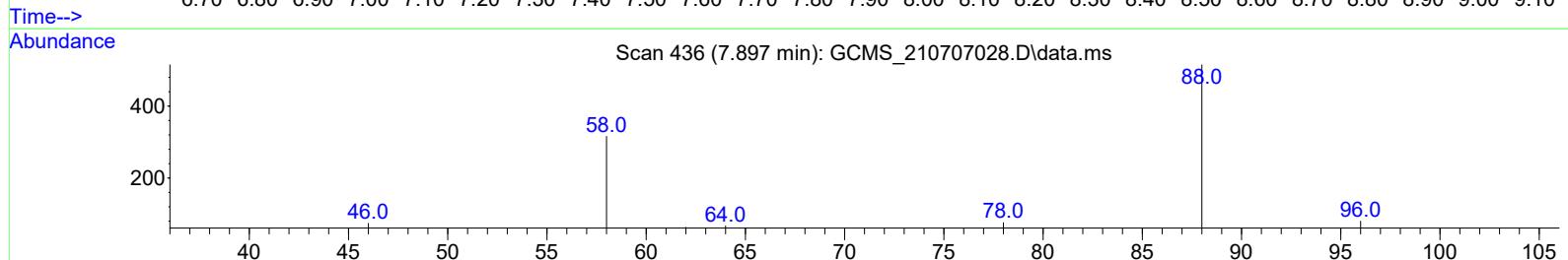
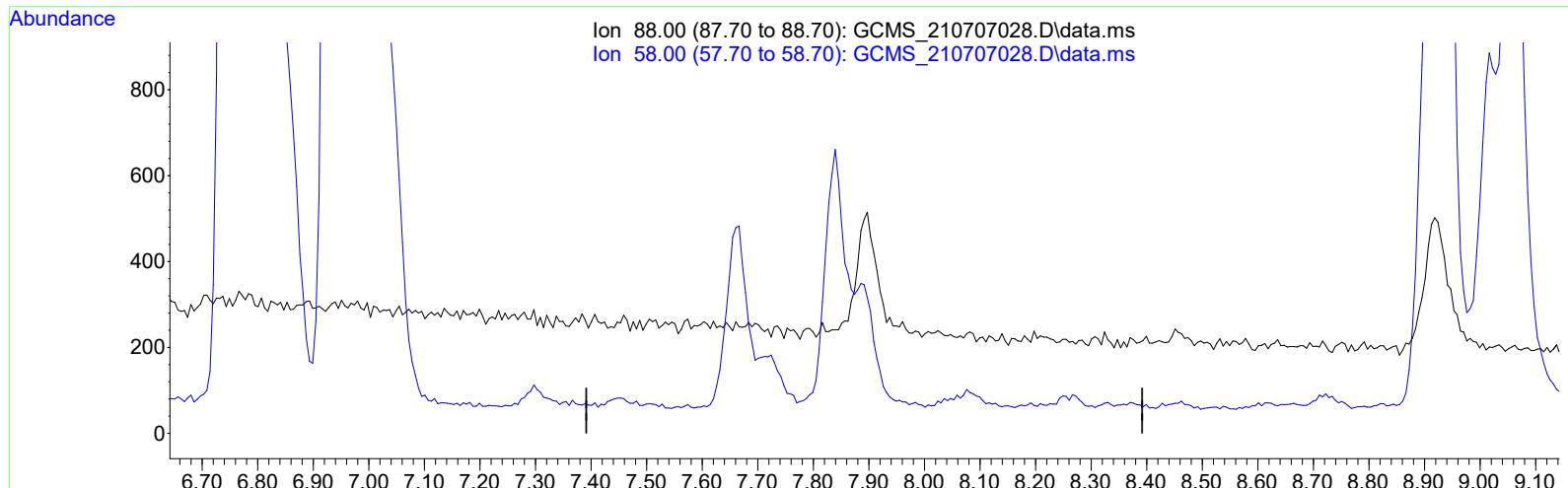
response 51621

**REVIEWED**  
By Bruce Gallant at 8:55 am, Aug 17, 2021

Ion	Exp%	Act%
46.00	100.00	100.00
78.00	39.30	44.04
80.00	41.50	49.05
0.00	0.00	0.00

Data Path : D:\MassHunter\GCMS\1\data\210707mak\  
 Data File : GCMS\_210707028.D  
 Acq On : 07 Jul 2021 09:16 pm  
 Operator :  
 Sample : E210603-01RE1  
 Misc :  
 ALS Vial : 19 Sample Multiplier: 1

Quant Time: Jul 08 09:11:56 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210707028.D\data.ms

(3) 1,4-Dioxane (M)

7.892min (-7.892) 0.00 ug/L

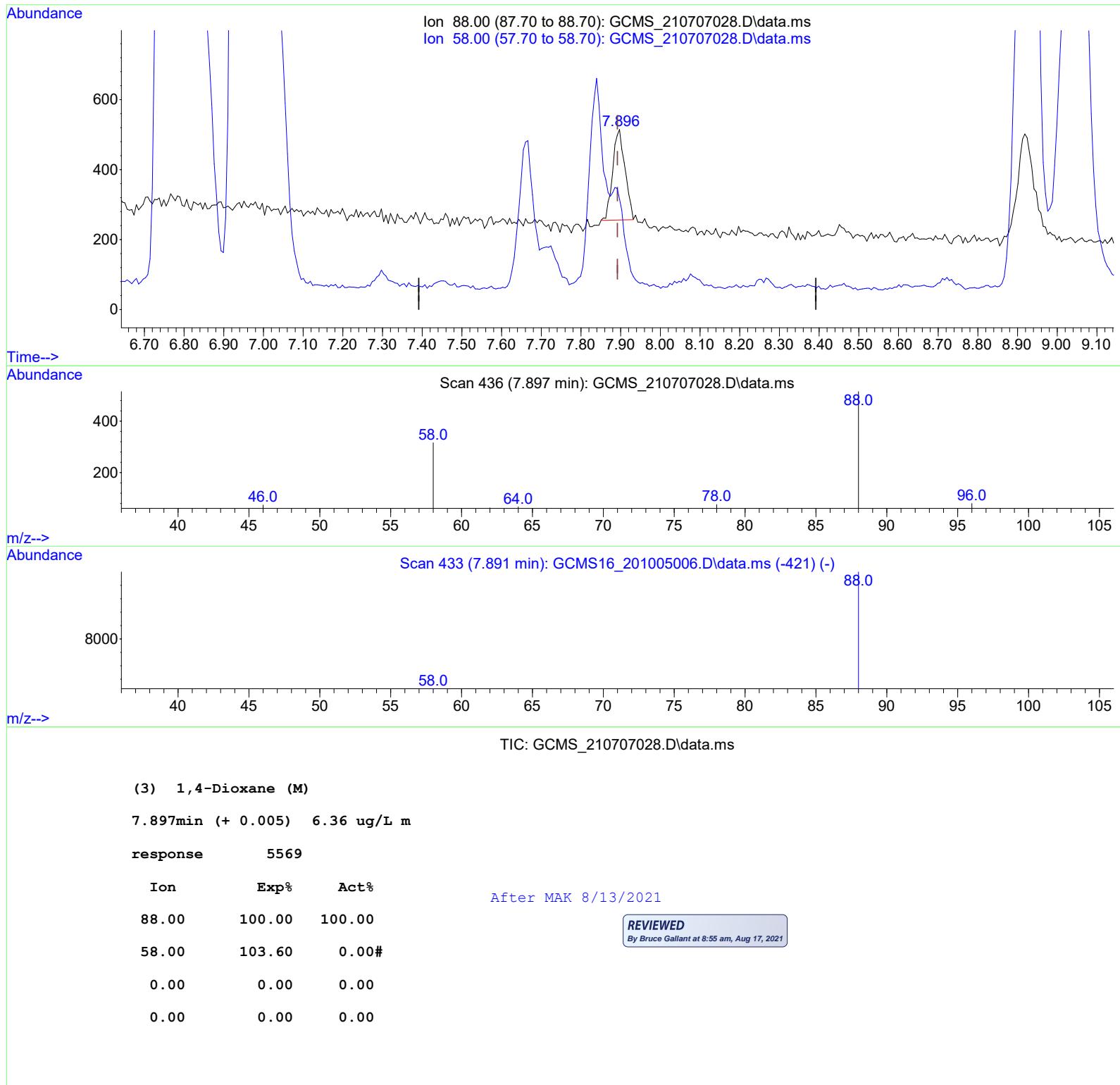
response 0

Ion	Exp%	Act%	Before N,S MAK 8/13/2021
88.00	100.00	0.00	
58.00	103.60	0.00#	
0.00	0.00	0.00	
0.00	0.00	0.00	

## Quantitation Report (Qedit)

Data Path : J:\Southeast Rockford Groundwater\4. MS\E210602 and E210603 14diox\Templates\GCMS16\Data\210707mak\  
 Data File : GCMS\_210707028.D  
 Acq On : 07 Jul 2021 09:16 pm  
 Operator :  
 Sample : E210603-01RE1  
 Misc :  
 ALS Vial : 19 Sample Multiplier: 1

Quant Time: Jul 08 09:11:56 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



Data Path : D:\MassHunter\Data\210707mak\  
Data File : GCMS\_210707029.D  
Acq On : 07 Jul 2021 09:37 pm  
Operator :  
Sample : E210603-02RE1  
Misc :  
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Jul 08 09:11:58 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	5.705	46	49220m	50.00	ug/L	0.00
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	7.818	96	19264	24.30	ug/L	0.00
<hr/>						
Target Compounds				Qvalue		
3) 1,4-Dioxane	7.893	88	137127	164.27	ug/L	77
<hr/>						

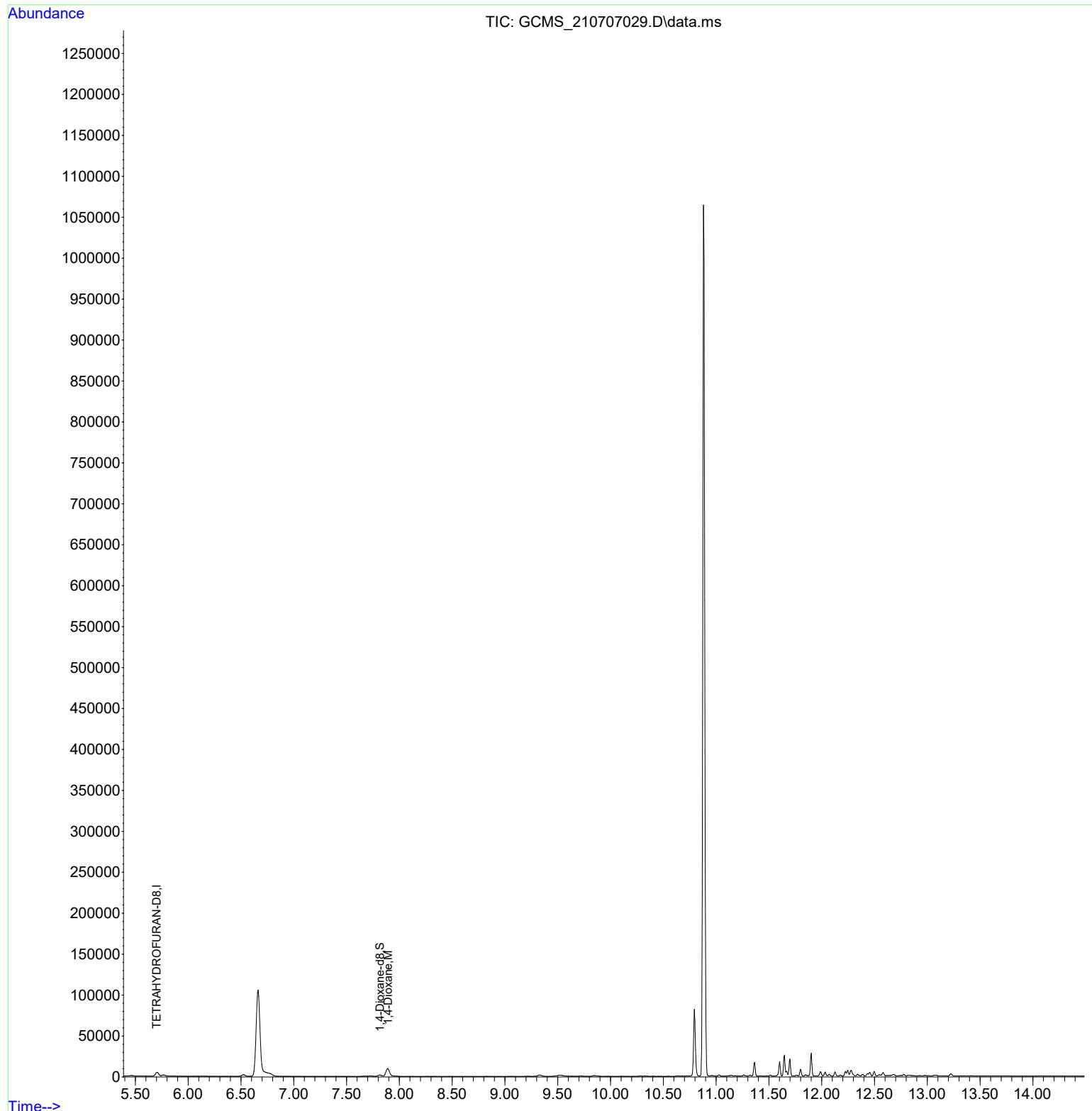
(#) = qualifier out of range (m) = manual integration (+) = signals summed

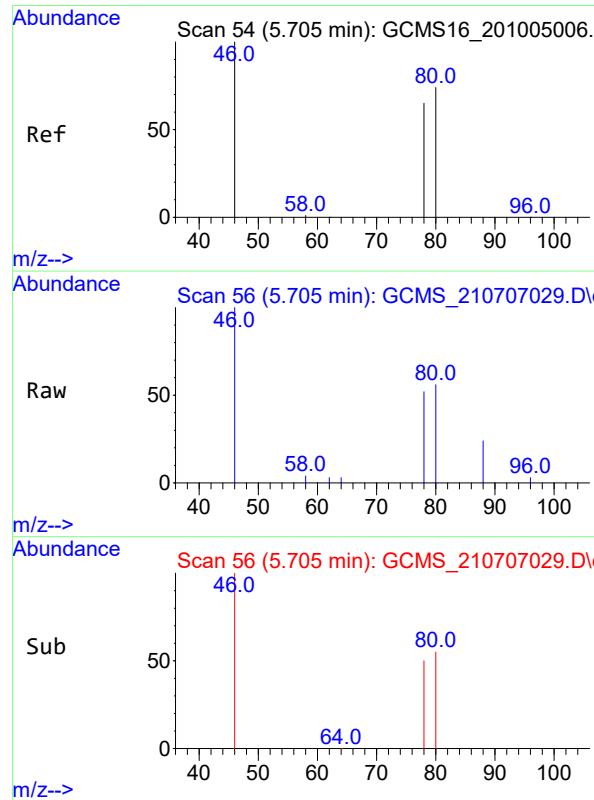
MAK 8/13/2021

REVIEWED  
By Bruce Gallant at 8:55 am, Aug 17, 2021

Data Path : D:\MassHunter\Data\210707mak\  
Data File : GCMS\_210707029.D  
Acq On : 07 Jul 2021 09:37 pm  
Operator :  
Sample : E210603-02RE1  
Misc :  
ALS Vial : 20 Sample Multiplier: 1

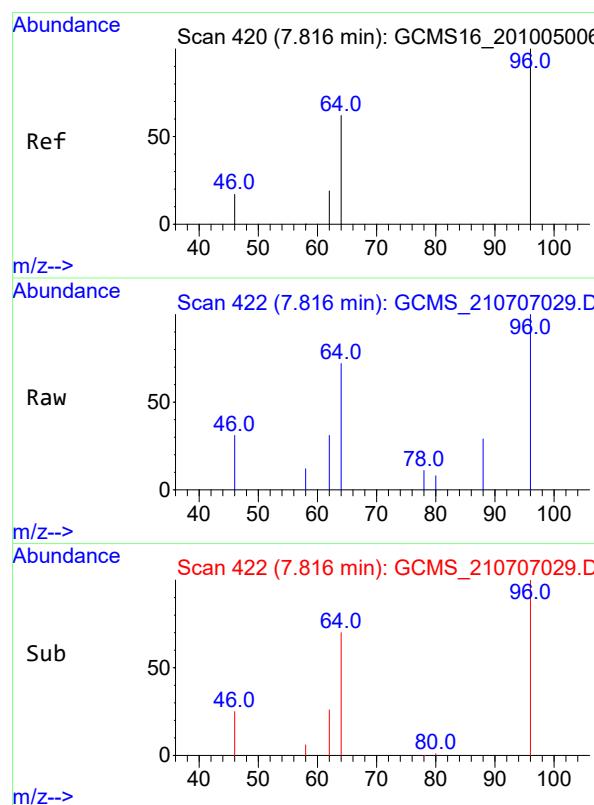
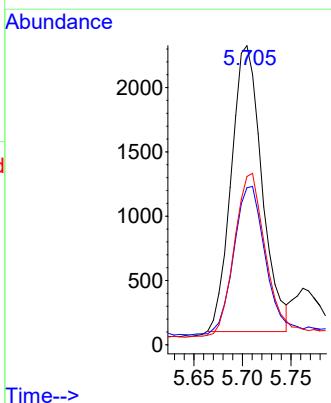
Quant Time: Jul 08 09:11:58 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration





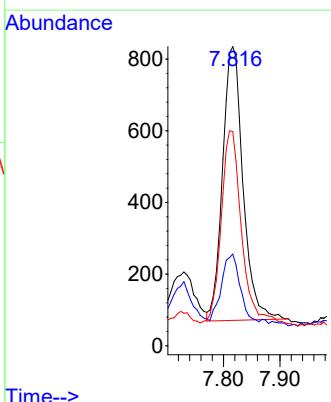
#1  
TETRAHYDROFURAN-D8  
Concen: 50.00 ug/L m  
RT: 5.705 min Scan# 56  
Delta R.T. 0.002 min  
Lab File: GCMS\_210707029.D  
Acq: 07 Jul 2021 09:37 pm

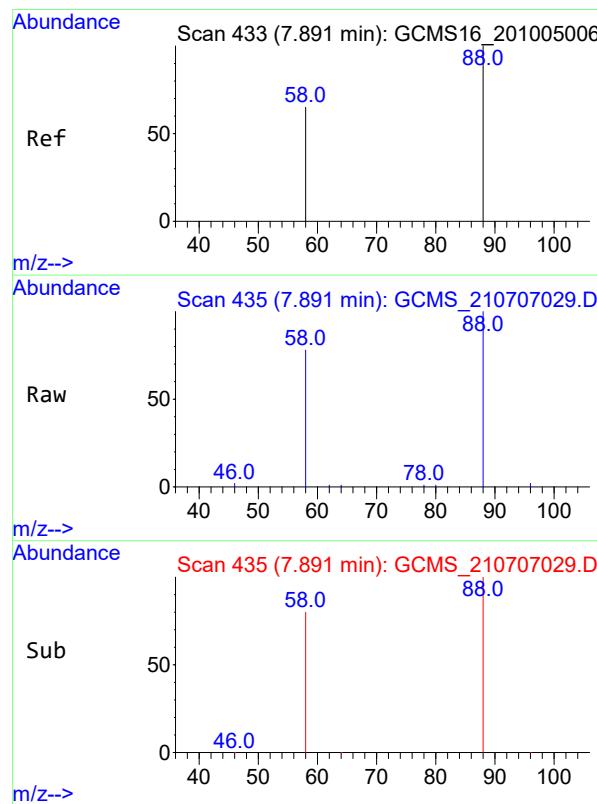
Tgt Ion: 46 Resp: 49220  
Ion Ratio Lower Upper  
46 100  
78 52.6 27.5 51.1#  
80 56.7 29.0 53.9#



#2  
1,4-Dioxane-d8  
Concen: 24.30 ug/L  
RT: 7.818 min Scan# 422  
Delta R.T. 0.004 min  
Lab File: GCMS\_210707029.D  
Acq: 07 Jul 2021 09:37 pm

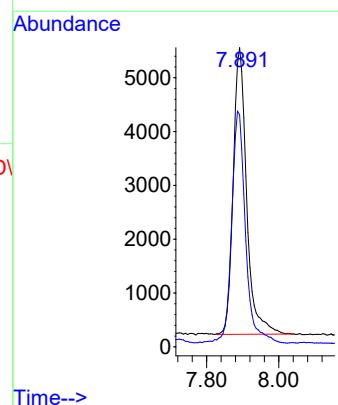
Tgt Ion: 96 Resp: 19264  
Ion Ratio Lower Upper  
96 100  
62 0.0 0.0 0.0  
64 65.1 56.8 105.6





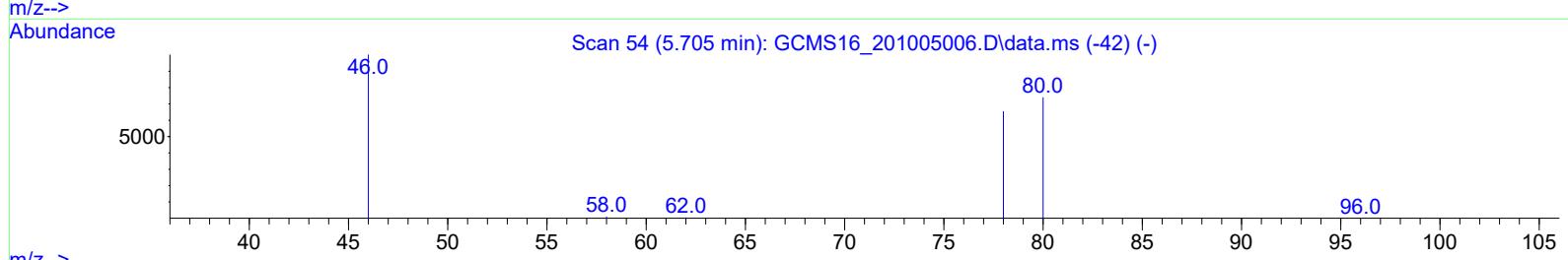
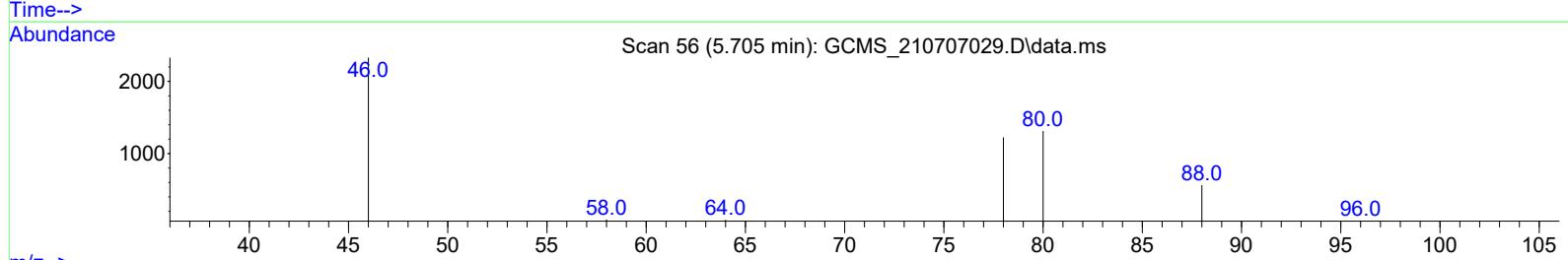
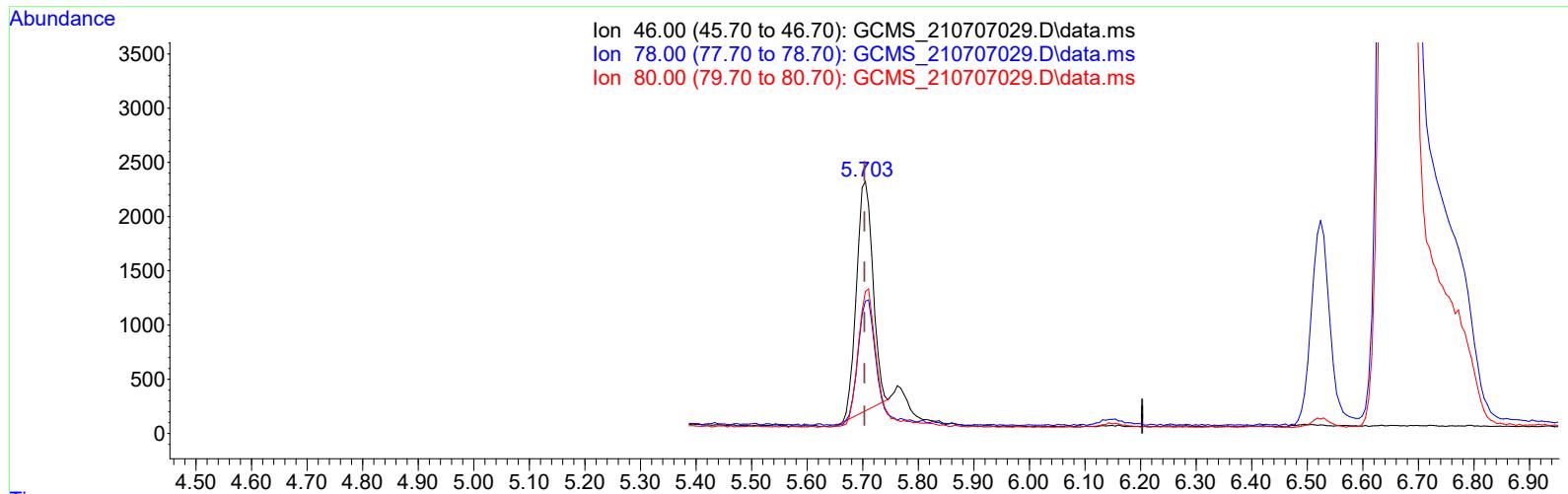
#3  
 1,4-Dioxane  
 Concen: 164.27 ug/L  
 RT: 7.893 min Scan# 435  
 Delta R.T. 0.001 min  
 Lab File: GCMS\_210707029.D  
 Acq: 07 Jul 2021 09:37 pm

Tgt Ion: 88 Resp: 137127  
 Ion Ratio Lower Upper  
 88 100  
 58 80.5 72.5 134.7



Data Path : D:\MassHunter\GCMS\1\data\210707mak\  
 Data File : GCMS\_210707029.D  
 Acq On : 07 Jul 2021 09:37 pm  
 Operator :  
 Sample : E210603-02RE1  
 Misc :  
 ALS Vial : 20 Sample Multiplier: 1

Quant Time: Jul 08 09:11:58 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210707029.D\data.ms

(1) TETRAHYDROFURAN-D8 (I)

5.705min (+ 0.002) 50.00 ug/L

response 43037

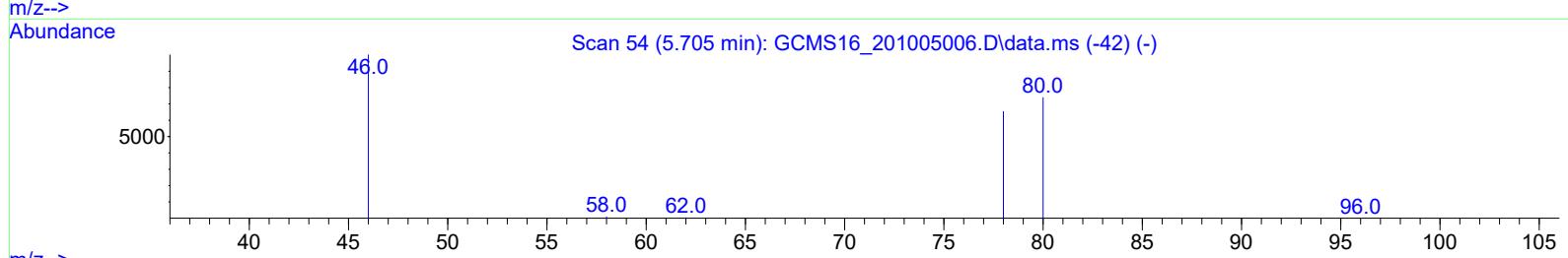
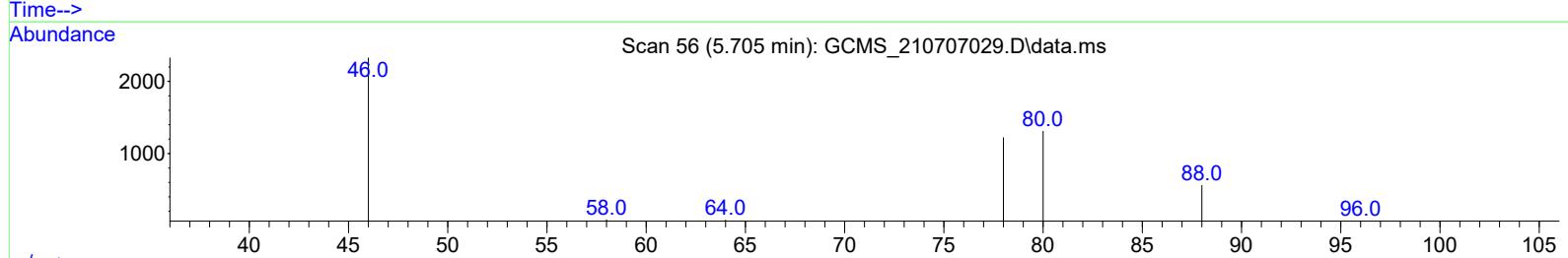
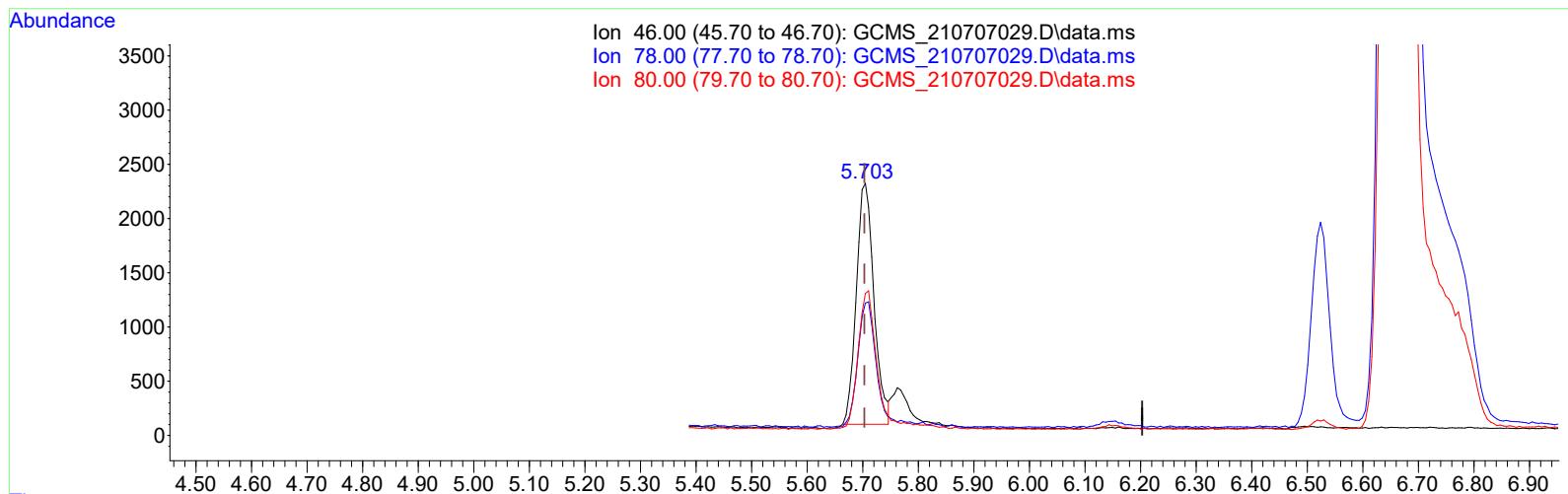
Before I,B MAK 8/13/2021

Ion	Exp%	Act%
46.00	100.00	100.00
78.00	39.30	60.12#
80.00	41.50	64.81#
0.00	0.00	0.00

## Quantitation Report (Qedit)

Data Path : J:\Southeast Rockford Groundwater\4. MS\E210602 and E210603 14diox\Templates\GCMS16\Data\210707mak\  
 Data File : GCMS\_210707029.D  
 Acq On : 07 Jul 2021 09:37 pm  
 Operator :  
 Sample : E210603-02RE1  
 Misc :  
 ALS Vial : 20 Sample Multiplier: 1

Quant Time: Jul 08 09:11:58 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624.mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210707029.D\data.ms

## (1) TETRAHYDROFURAN-D8 (I)

5.705min (+ 0.002) 50.00 ug/L m

After MAK 8/13/2021

response 49220

**REVIEWED**  
By Bruce Gallant at 8:56 am, Aug 17, 2021

Ion	Exp%	Act%
46.00	100.00	100.00
78.00	39.30	52.56#
80.00	41.50	56.67#
0.00	0.00	0.00

Data Path : D:\MassHunter\Data\210707mak\  
Data File : GCMS\_210707030.D  
Acq On : 07 Jul 2021 09:58 pm  
Operator :  
Sample : E210603-03RE1  
Misc :  
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Jul 08 09:12:00 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	5.705	46	51445m	50.00	ug/L	0.00
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	7.820	96	19969	24.10	ug/L	0.00
<hr/>						
Target Compounds				Qvalue		
3) 1,4-Dioxane	7.897	88	10732m	12.30	ug/L	
<hr/>						

(#) = qualifier out of range (m) = manual integration (+) = signals summed

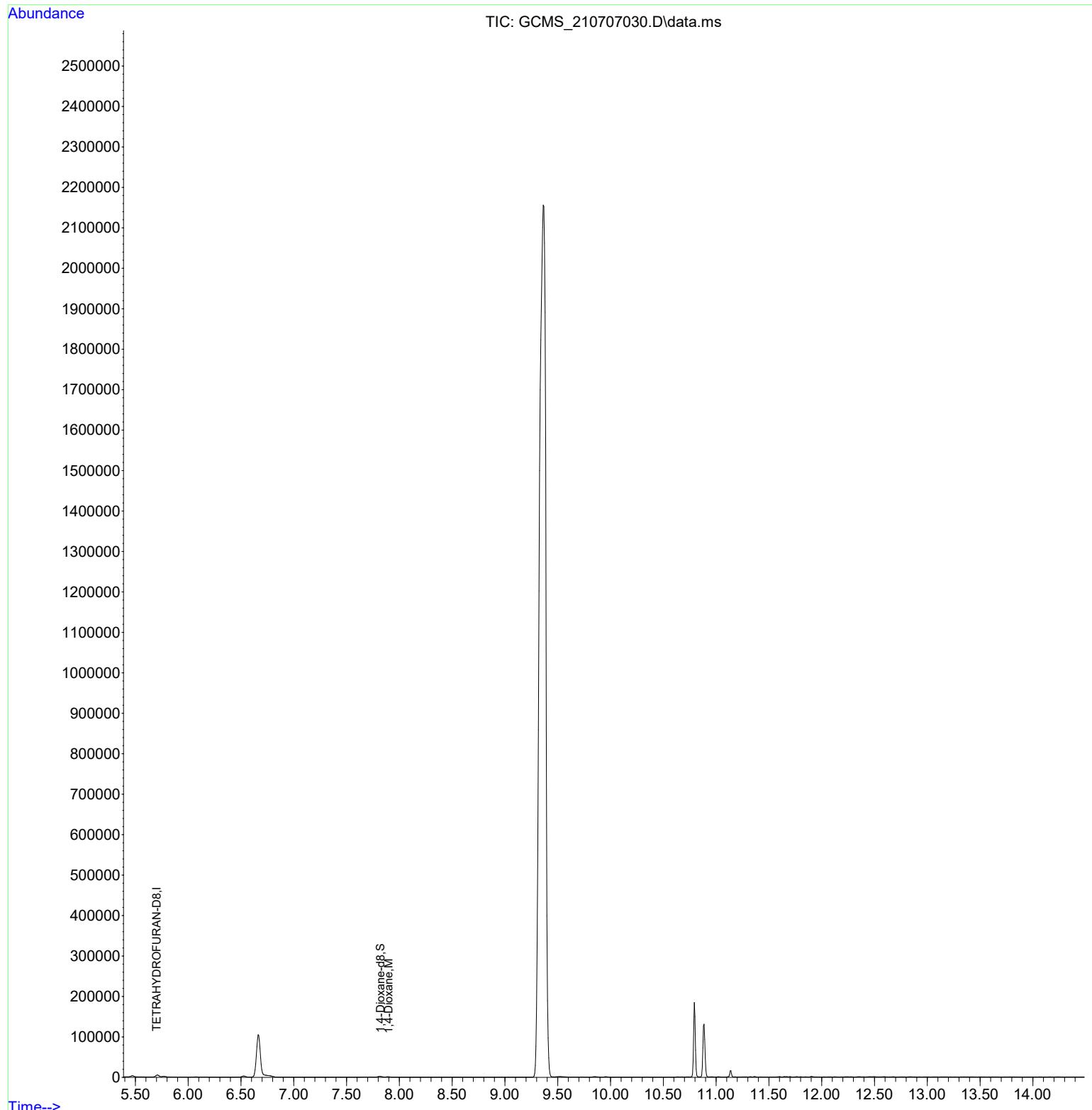
MAK 8/13/2021

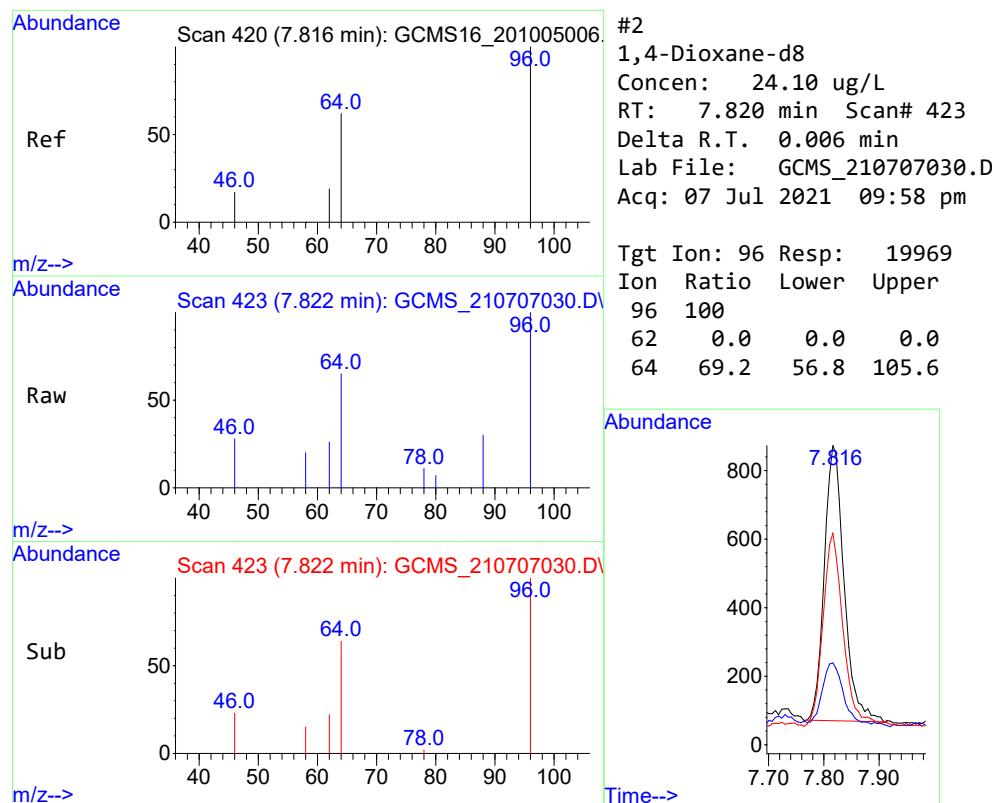
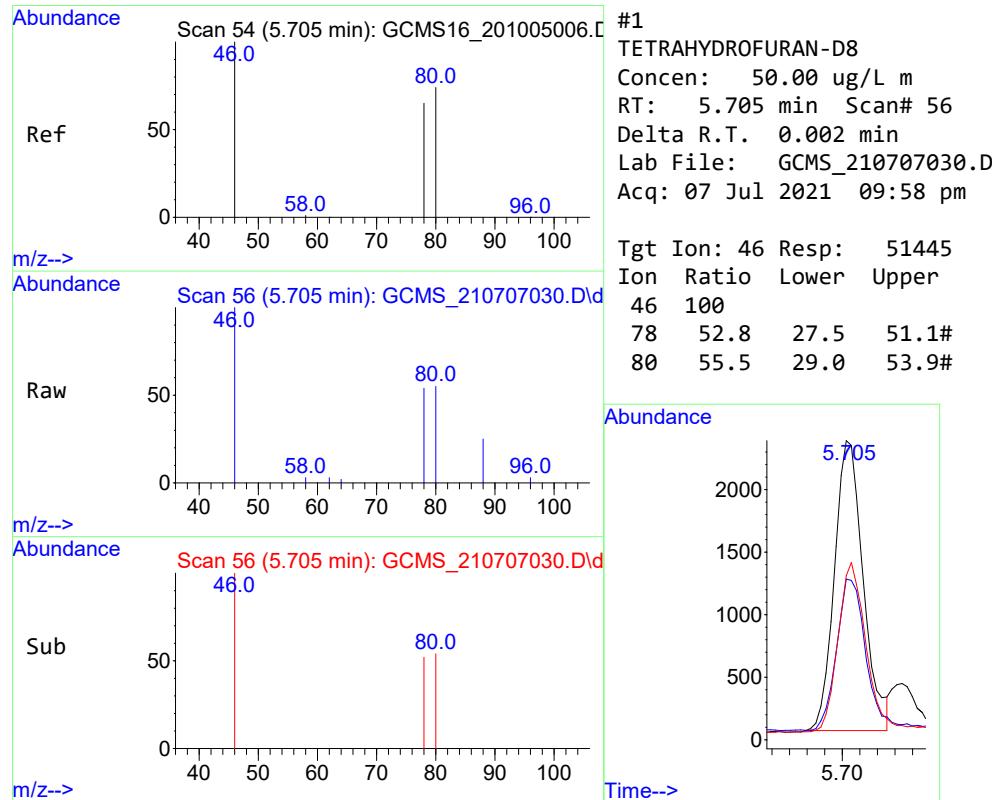
REVIEWED

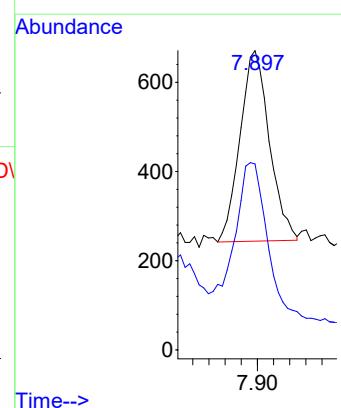
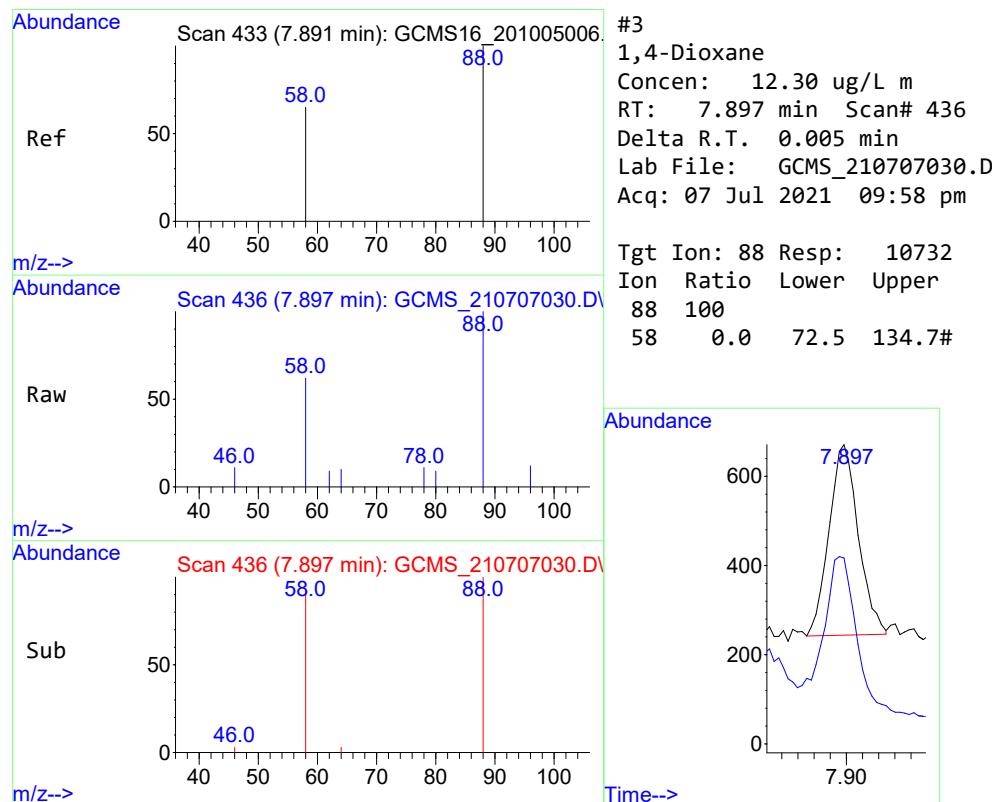
By Bruce Gallant at 8:56 am, Aug 17, 2021

Data Path : D:\MassHunter\Data\210707mak\  
Data File : GCMS\_210707030.D  
Acq On : 07 Jul 2021 09:58 pm  
Operator :  
Sample : E210603-03RE1  
Misc :  
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Jul 08 09:12:00 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration

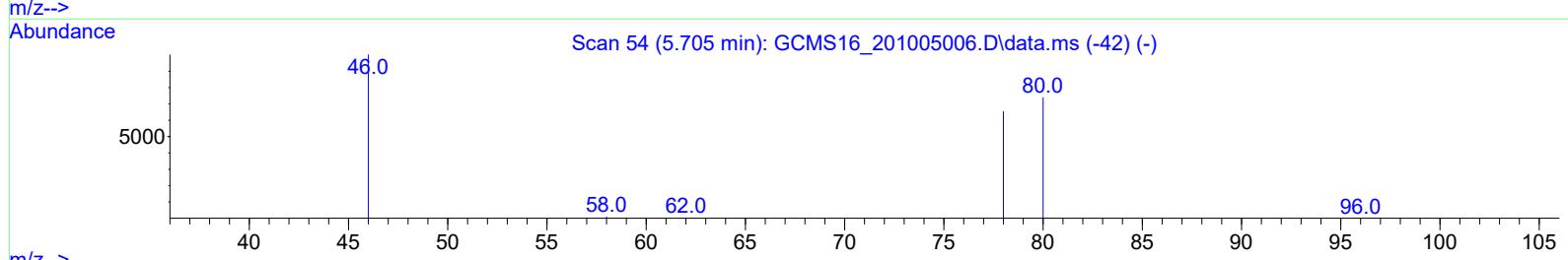
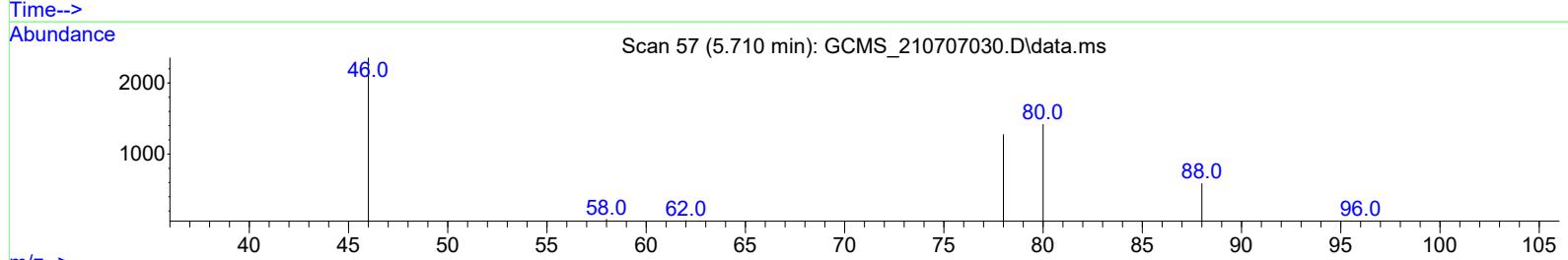
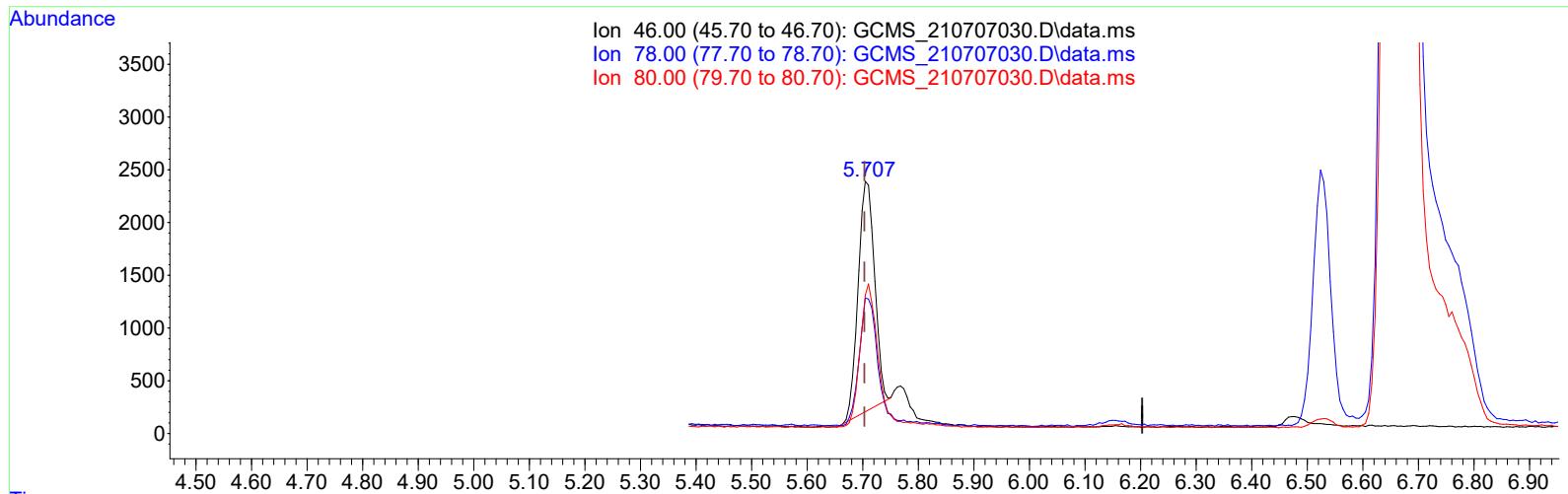






Data Path : D:\MassHunter\GCMS\1\data\210707mak\  
 Data File : GCMS\_210707030.D  
 Acq On : 07 Jul 2021 09:58 pm  
 Operator :  
 Sample : E210603-03RE1  
 Misc :  
 ALS Vial : 21 Sample Multiplier: 1

Quant Time: Jul 08 09:12:00 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210707030.D\data.ms

(1) TETRAHYDROFURAN-D8 (I)  
 5.709min (+ 0.006) 50.00 ug/L

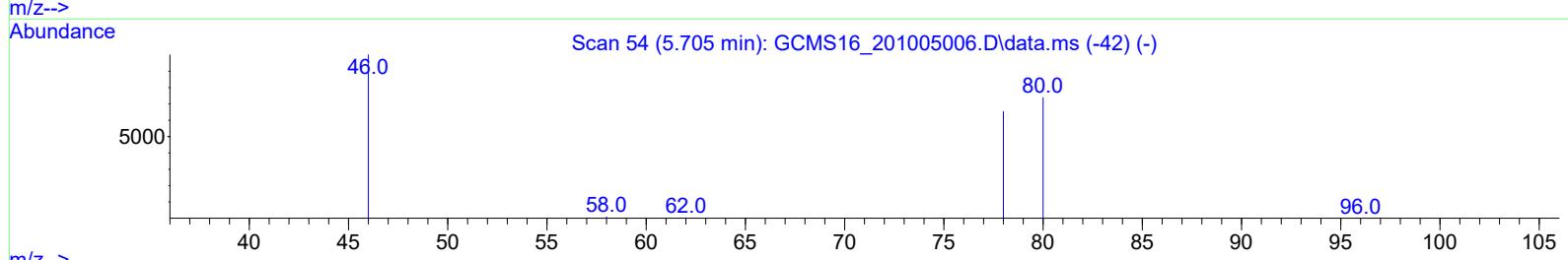
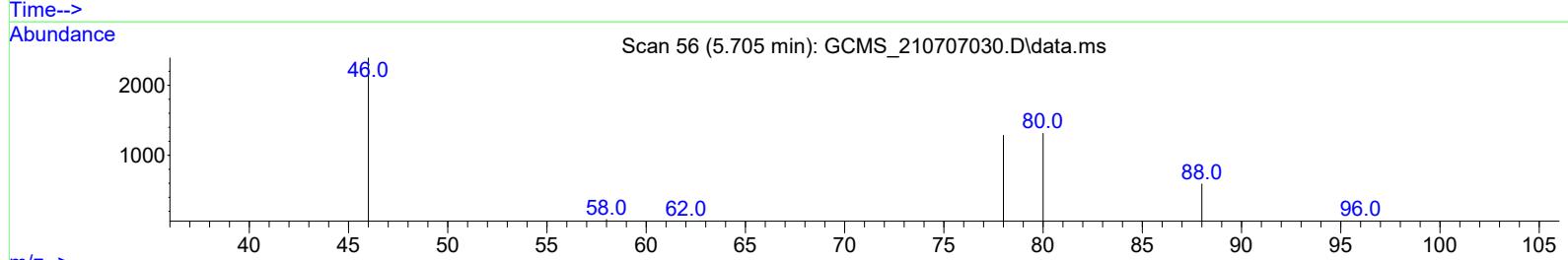
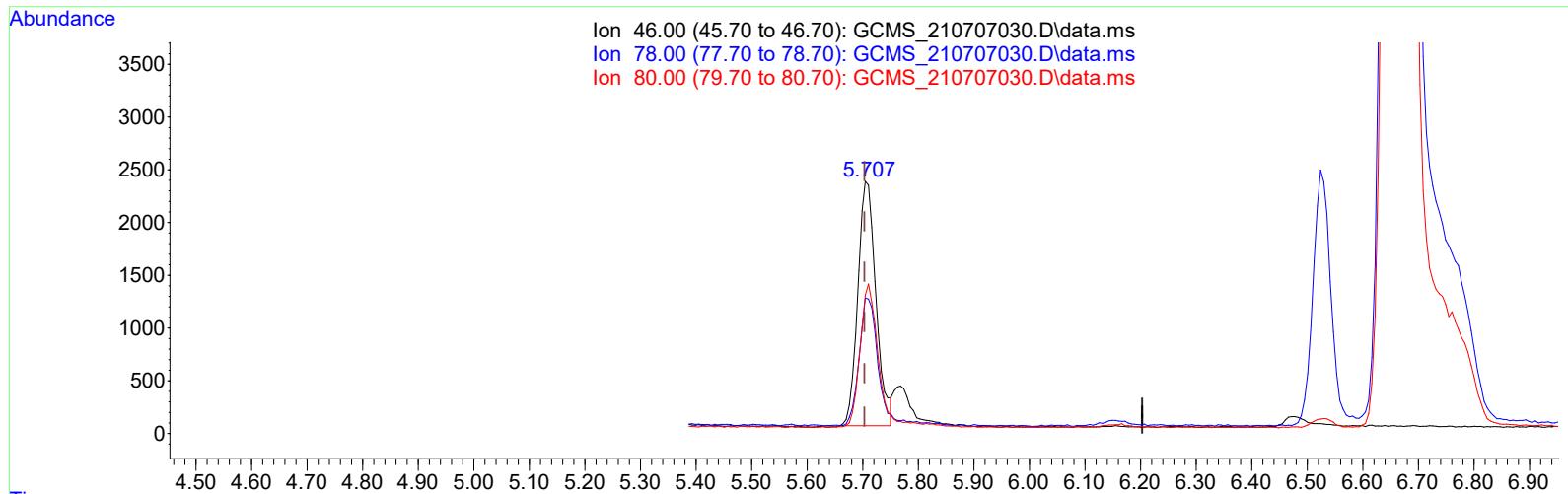
response 44467

Ion	Exp%	Act%	Before I,B MAK 8/13/2021
46.00	100.00	100.00	
78.00	39.30	61.04#	
80.00	41.50	64.21#	
0.00	0.00	0.00	

## Quantitation Report (Qedit)

Data Path : J:\Southeast Rockford Groundwater\4. MS\E210602 and E210603 14diox\Templates\GCMS16\Data\210707mak\  
 Data File : GCMS\_210707030.D  
 Acq On : 07 Jul 2021 09:58 pm  
 Operator :  
 Sample : E210603-03RE1  
 Misc :  
 ALS Vial : 21 Sample Multiplier: 1

Quant Time: Jul 08 09:12:00 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210707030.D\data.ms

## (1) TETRAHYDROFURAN-D8 (I)

5.705min (+ 0.002) 50.00 ug/L m

After MAK 8/13/2021

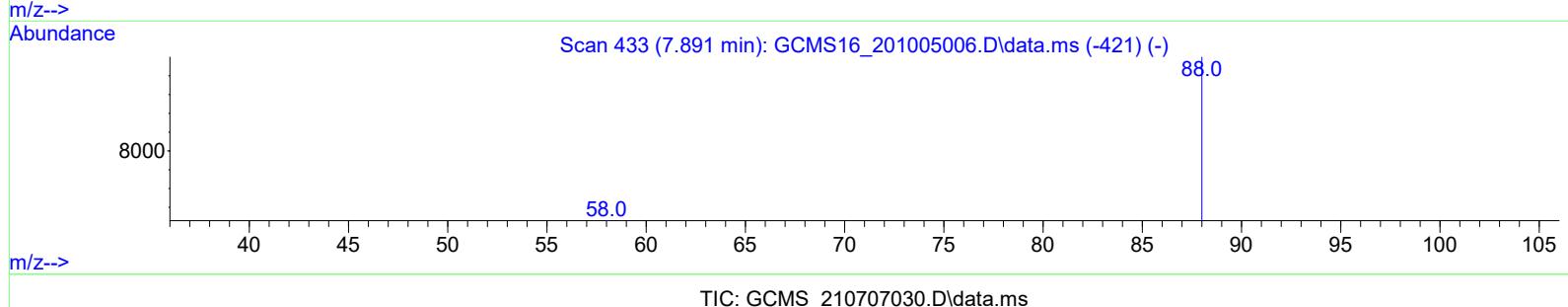
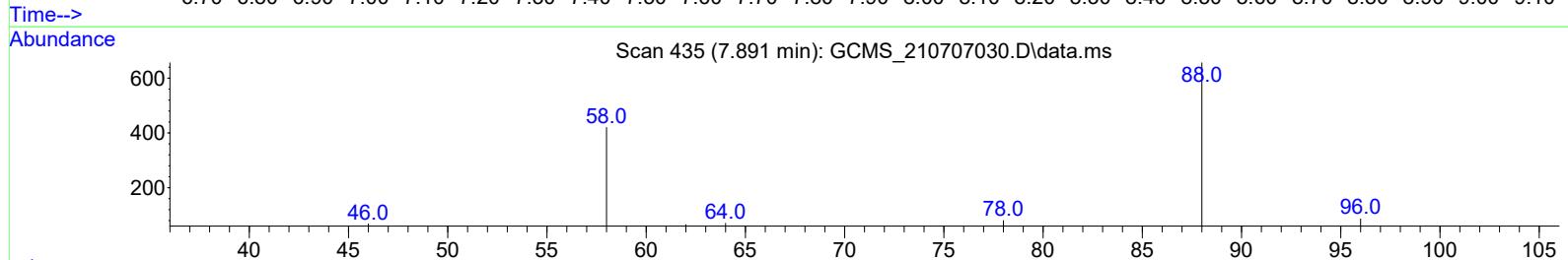
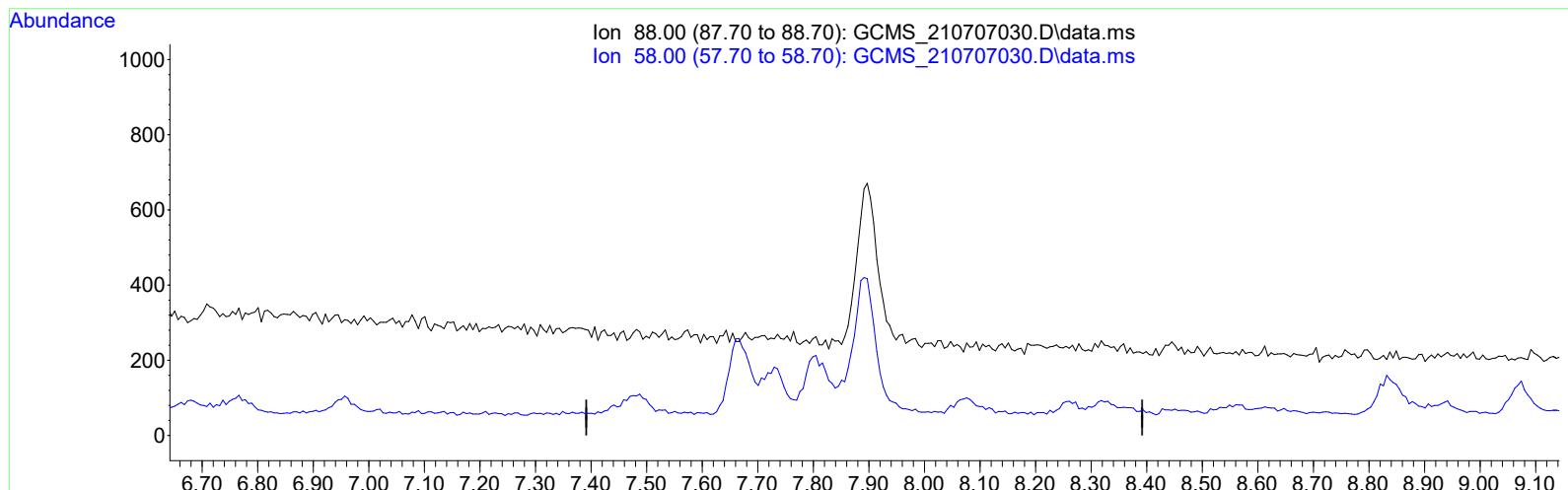
response 51445

Ion	Exp%	Act%
46.00	100.00	100.00
78.00	39.30	52.76#
80.00	41.50	55.50#
0.00	0.00	0.00

REVIEWED  
 By Bruce Gallant at 8:56 am, Aug 17, 2021

Data Path : D:\MassHunter\GCMS\1\data\210707mak\  
 Data File : GCMS\_210707030.D  
 Acq On : 07 Jul 2021 09:58 pm  
 Operator :  
 Sample : E210603-03RE1  
 Misc :  
 ALS Vial : 21 Sample Multiplier: 1

Quant Time: Jul 08 09:12:00 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



(3) 1,4-Dioxane (M)

7.892min (-7.892) 0.00 ug/L

response 0

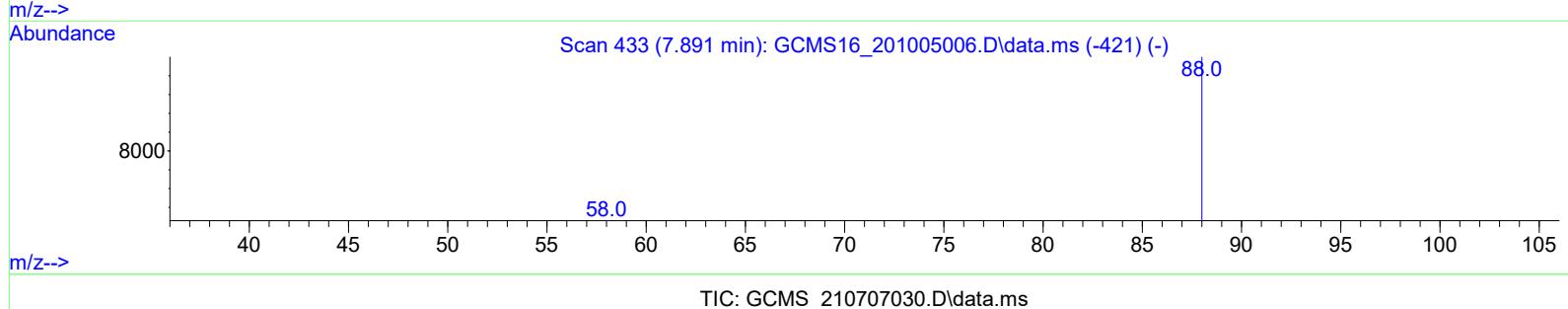
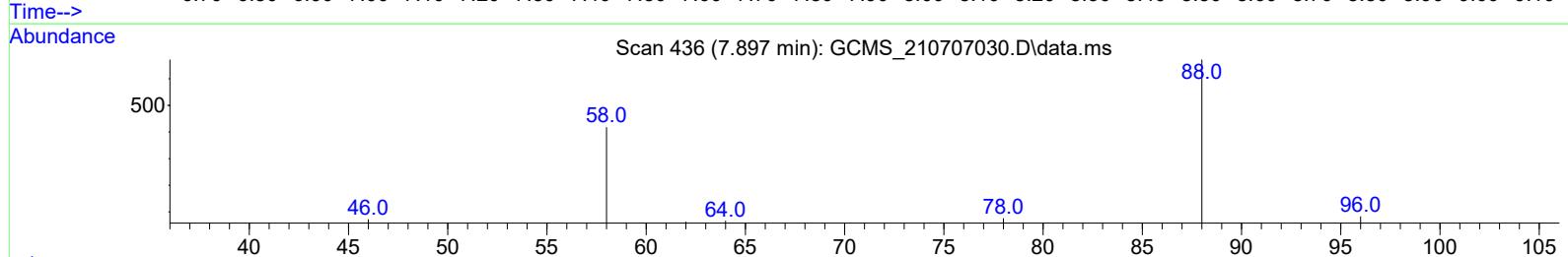
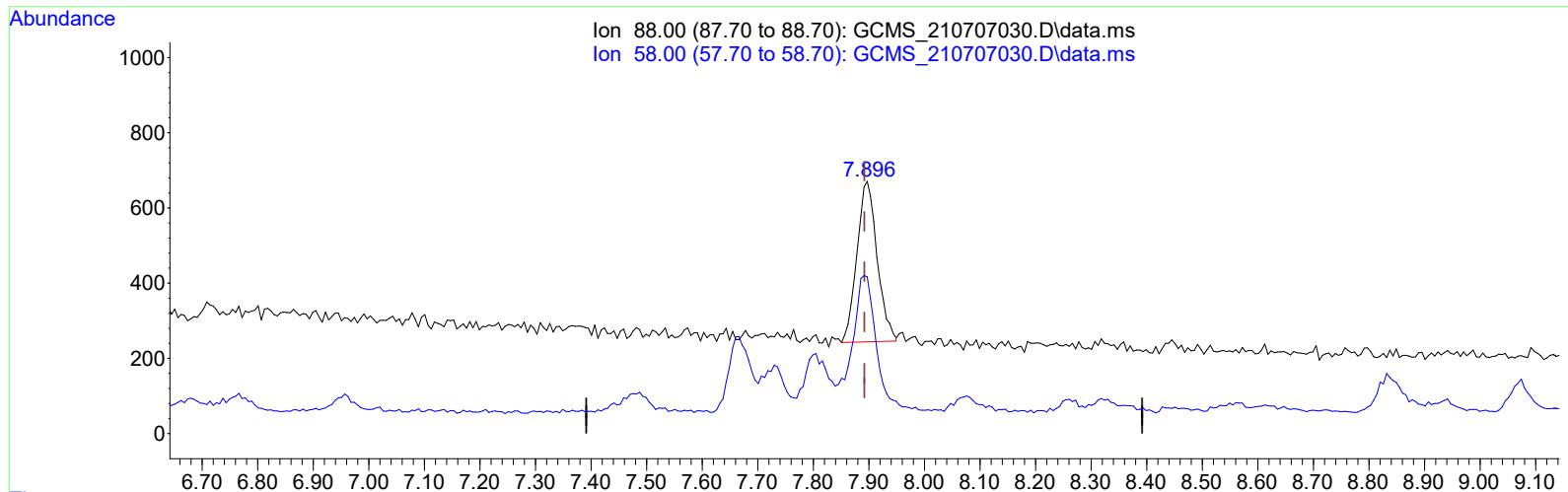
Before N,S MAK 8/13/2021

Ion	Exp%	Act%
88.00	100.00	0.00
58.00	103.60	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

## Quantitation Report (Qedit)

Data Path : J:\Southeast Rockford Groundwater\4. MS\E210602 and E210603 14diox\Templates\GCMS16\Data\210707mak\  
 Data File : GCMS\_210707030.D  
 Acq On : 07 Jul 2021 09:58 pm  
 Operator :  
 Sample : E210603-03RE1  
 Misc :  
 ALS Vial : 21 Sample Multiplier: 1

Quant Time: Jul 08 09:12:00 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624.mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



## (3) 1,4-Dioxane (M)

7.897min (+ 0.005) 12.30 ug/L m

After MAK 8/13/2021

response 10732

**REVIEWED**  
 By Bruce Gallant at 8:57 am, Aug 17, 2021

Ion	Exp%	Act%
88.00	100.00	100.00
58.00	103.60	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : J:\Southeast Rockford Groundwater\4. MS\E210602 and E210603 14diox\Templates\GCMS16\Data\210707mak\  
Data File : GCMS\_210707031.D  
Acq On : 07 Jul 2021 10:19 pm  
Operator :  
Sample : E210603-04RE1  
Misc :  
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Jul 08 09:12:02 2021

Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M

Quant Title : Initial Calibration of 1,4-Dioxane 021317

QLast Update : Thu Jun 24 15:10:43 2021

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	5.705	46	53597m	50.00	ug/L	0.00
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	7.821	96	21922	25.39	ug/L	0.00
<hr/>						
Target Compounds				Qvalue		
3) 1,4-Dioxane	0.000		0	N.D.		
<hr/>						

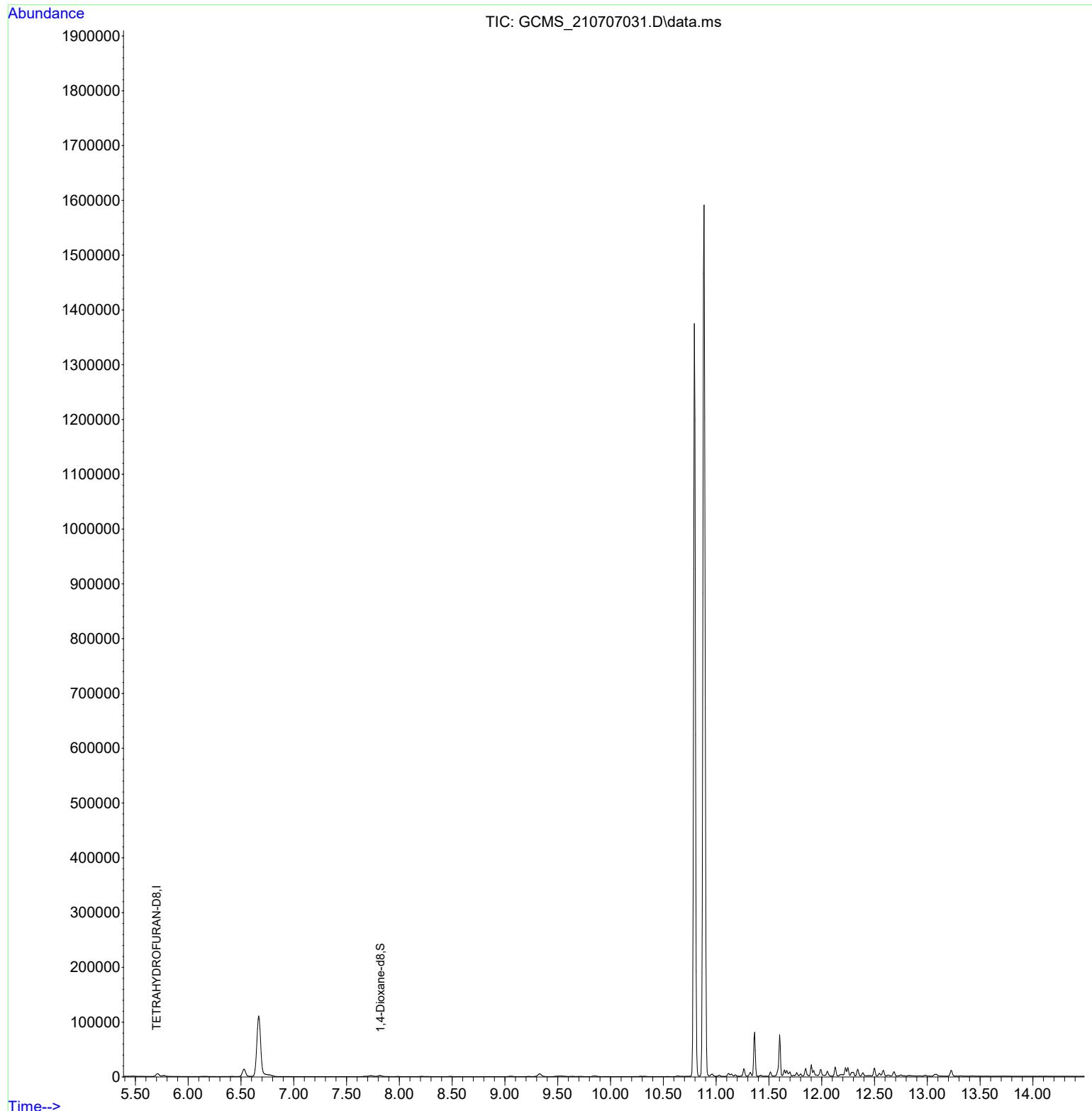
(#) = qualifier out of range (m) = manual integration (+) = signals summed

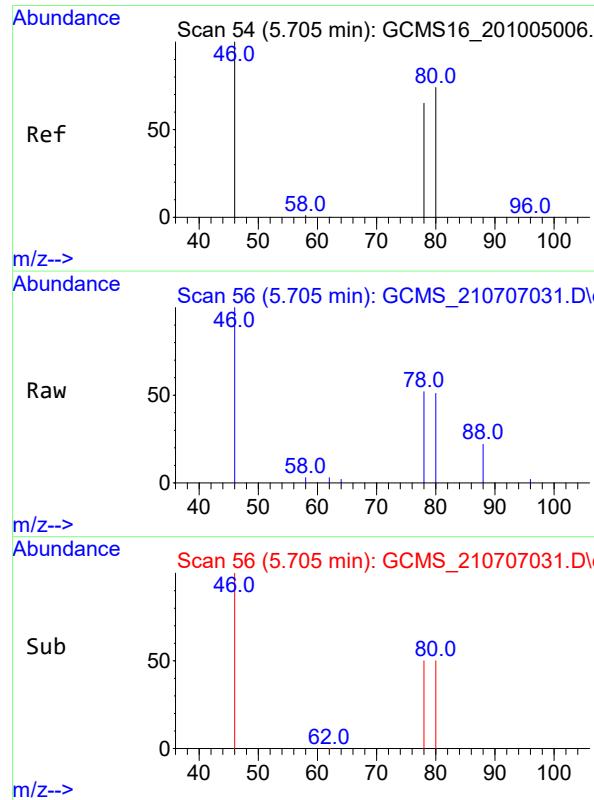
REVIEWED

By Bruce Gallant at 8:57 am, Aug 17, 2021

Data Path : J:\Southeast Rockford Groundwater\4. MS\E210602 and E210603 14diox\Templates\GCMS16\Data\210707mak\  
Data File : GCMS\_210707031.D  
Acq On : 07 Jul 2021 10:19 pm  
Operator :  
Sample : E210603-04RE1  
Misc :  
ALS Vial : 22 Sample Multiplier: 1

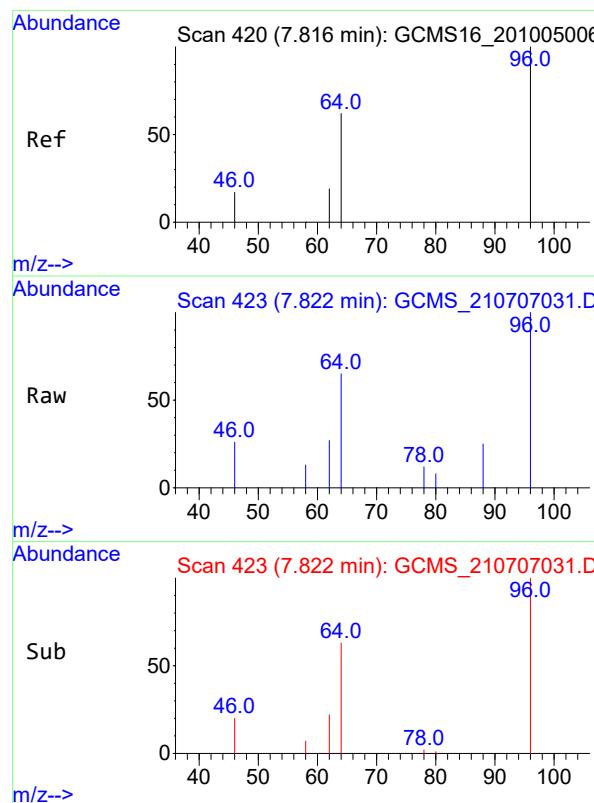
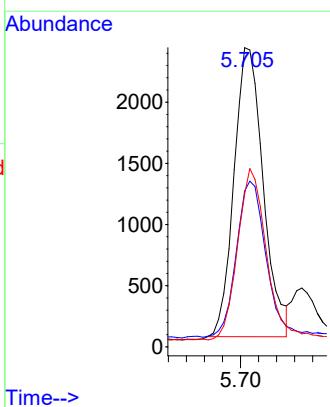
Quant Time: Jul 08 09:12:02 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624.mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration





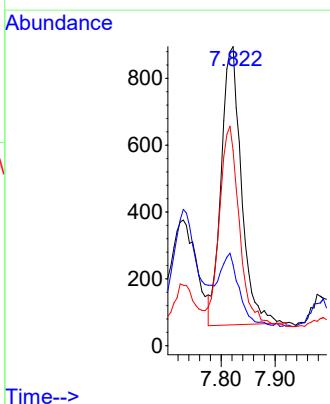
#1  
**TETRAHYDROFURAN-D8**  
Concen: 50.00 ug/L m  
RT: 5.705 min Scan# 56  
Delta R.T. 0.002 min  
Lab File: GCMS\_210707031.D  
Acq: 07 Jul 2021 10:19 pm

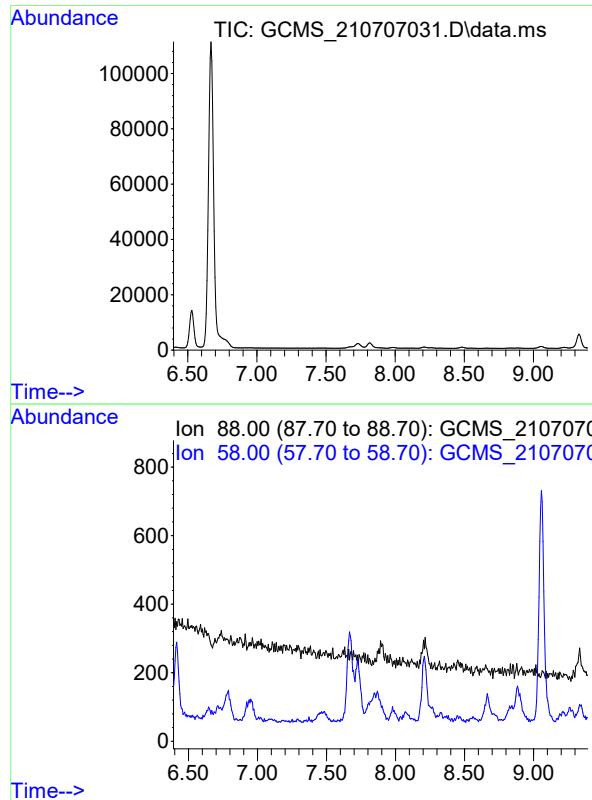
Tgt Ion: 46 Resp: 53597  
Ion Ratio Lower Upper  
46 100  
78 54.3 27.5 51.1#  
80 56.2 29.0 53.9#



#2  
**1,4-Dioxane-d8**  
Concen: 25.39 ug/L  
RT: 7.821 min Scan# 423  
Delta R.T. 0.007 min  
Lab File: GCMS\_210707031.D  
Acq: 07 Jul 2021 10:19 pm

Tgt Ion: 96 Resp: 21922  
Ion Ratio Lower Upper  
96 100  
62 0.0 0.0 0.0  
64 68.7 56.8 105.6

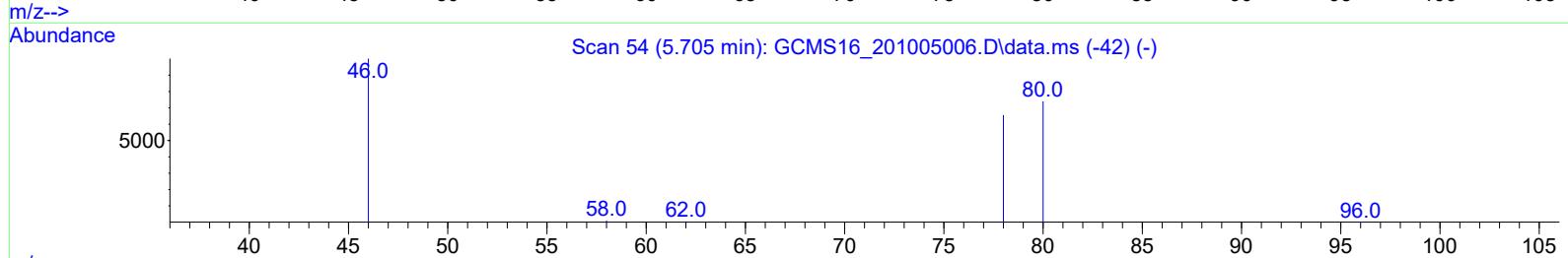
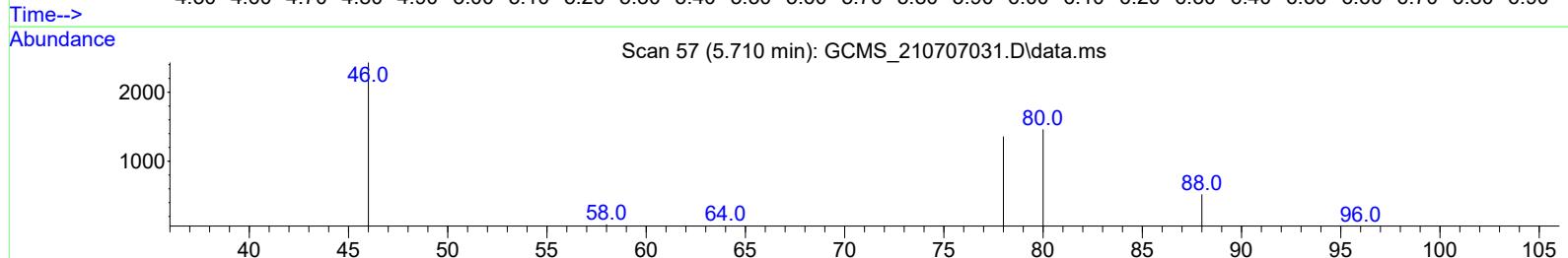
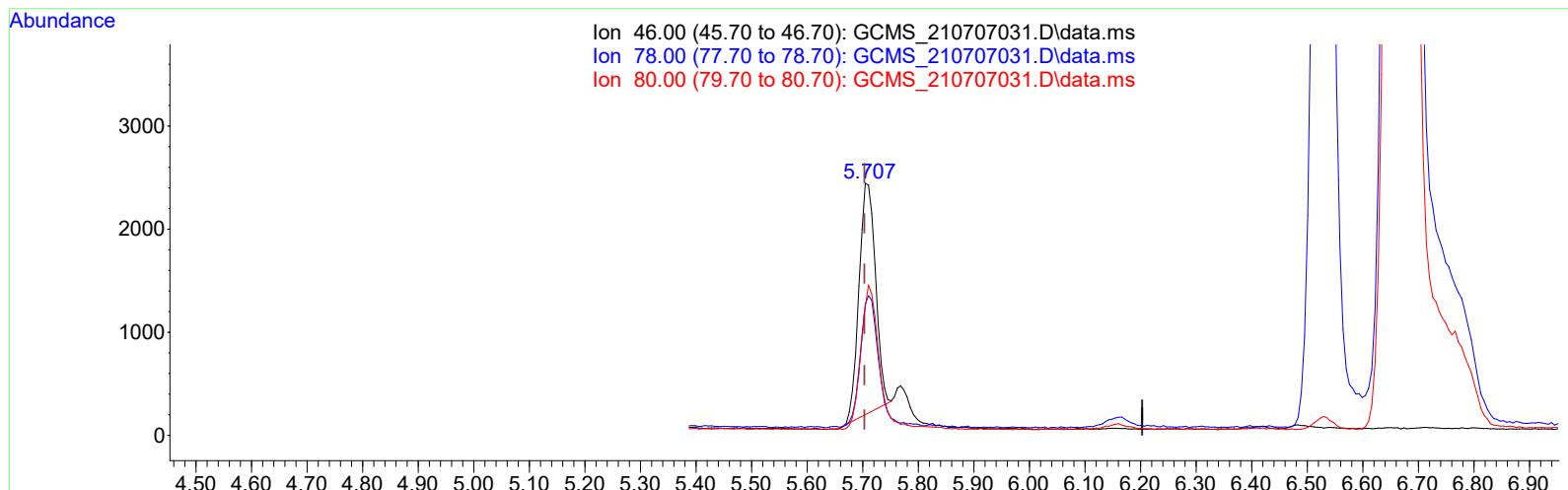




#3  
1,4-Dioxane  
Concen: N.D.  
Expected RT: 7.89 min  
  
Lab File: GCMS\_210707031.D  
Acq: 07 Jul 2021 10:19 pm  
  
Tgt Ion: 88  
Sig Exp Ratio  
88 100  
58 103.6

Data Path : D:\MassHunter\GCMS\1\data\210707mak\  
 Data File : GCMS\_210707031.D  
 Acq On : 07 Jul 2021 10:19 pm  
 Operator :  
 Sample : E210603-04RE1  
 Misc :  
 ALS Vial : 22 Sample Multiplier: 1

Quant Time: Jul 08 09:12:02 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210707031.D\data.ms

(1) TETRAHYDROFURAN-D8 (I)  
 5.710min (+ 0.007) 50.00 ug/L

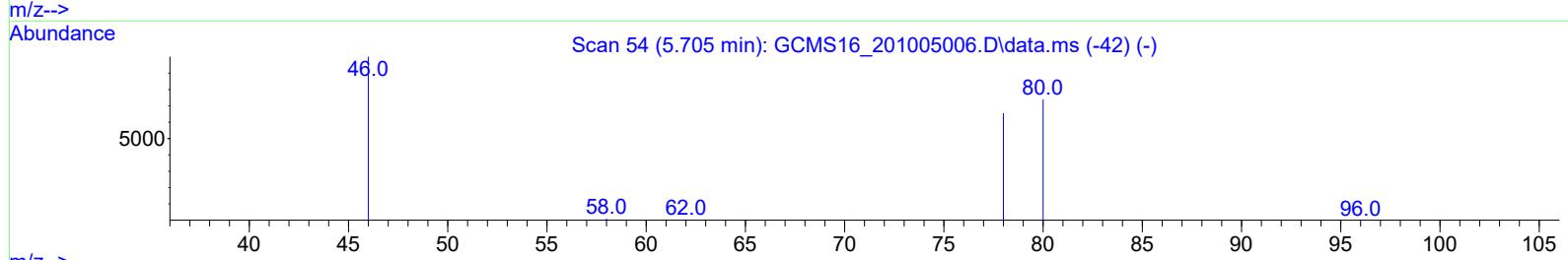
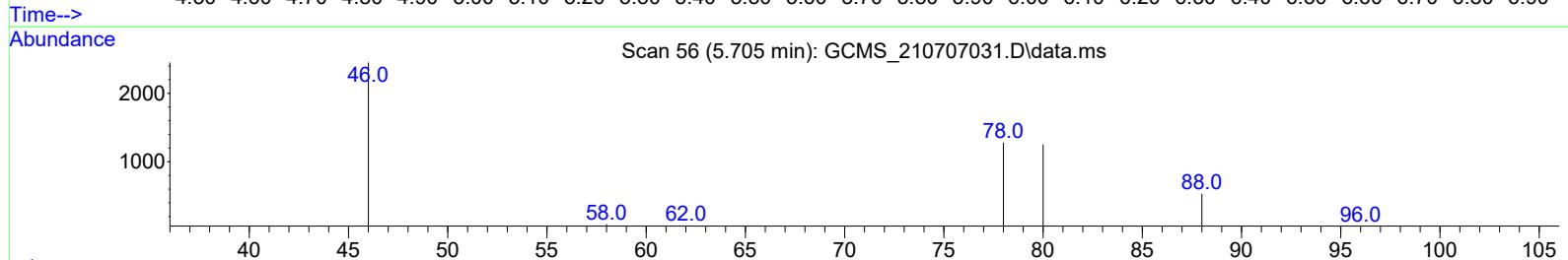
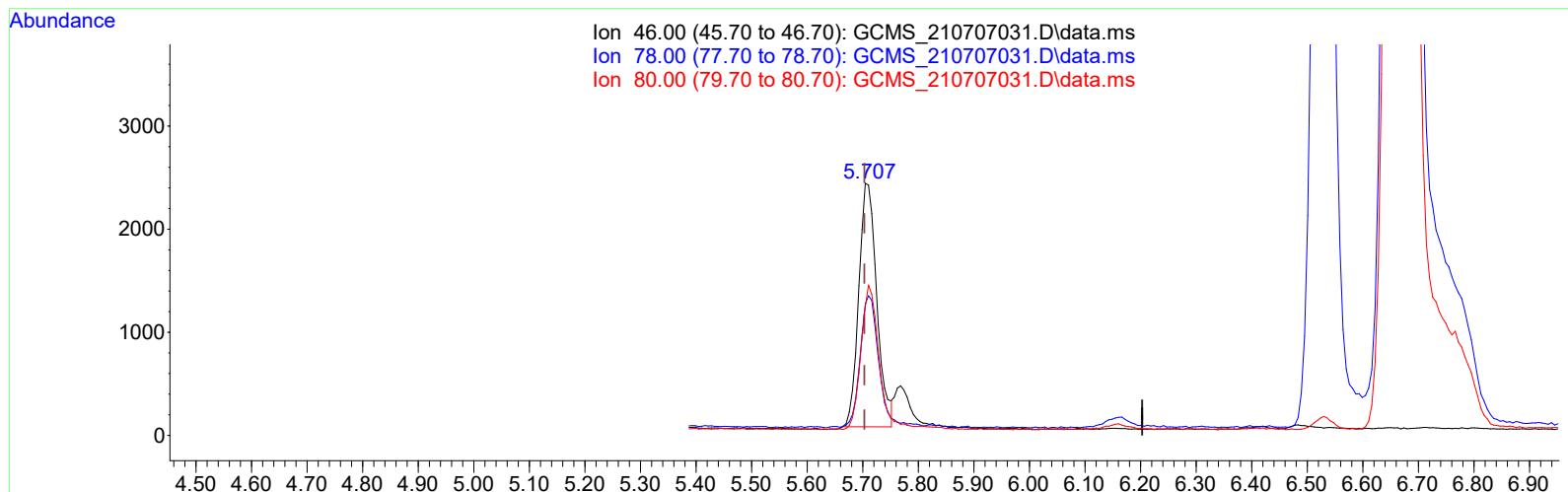
response 45788

Ion	Exp%	Act%	Before I, B MAK 8/13/2021
46.00	100.00	100.00	
78.00	39.30	63.51#	
80.00	41.50	65.73#	
0.00	0.00	0.00	

## Quantitation Report (Qedit)

Data Path : J:\Southeast Rockford Groundwater\4. MS\E210602 and E210603 14diox\Templates\GCMS16\Data\210707mak\  
 Data File : GCMS\_210707031.D  
 Acq On : 07 Jul 2021 10:19 pm  
 Operator :  
 Sample : E210603-04RE1  
 Misc :  
 ALS Vial : 22 Sample Multiplier: 1

Quant Time: Jul 08 09:12:02 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210707031.D\data.ms

(1) TETRAHYDROFURAN-D8 (I)

5.705min (+ 0.002) 50.00 ug/L m

response 53597 After MAK 8/13/2021

Ion	Exp%	Act%
46.00	100.00	100.00
78.00	39.30	54.26#
80.00	41.50	56.15#
0.00	0.00	0.00

REVIEWED  
By Bruce Gallant at 8:58 am, Aug 17, 2021

Data Path : J:\Southeast Rockford Groundwater\4. MS\E210602 and E210603 14diox\Templates\GCMS16\Data\210707mak\  
Data File : GCMS\_210707032.D  
Acq On : 07 Jul 2021 10:40 pm  
Operator :  
Sample : E210603-05RE1  
Misc :  
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Jul 08 09:12:04 2021

Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M

Quant Title : Initial Calibration of 1,4-Dioxane 021317

QLast Update : Thu Jun 24 15:10:43 2021

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	5.687	46	36909m	50.00	ug/L	-0.02
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	7.818	96	16283	27.39	ug/L	0.00
<hr/>						
Target Compounds				Qvalue		
3) 1,4-Dioxane	0.000		0	N.D.		
<hr/>						

(#) = qualifier out of range (m) = manual integration (+) = signals summed

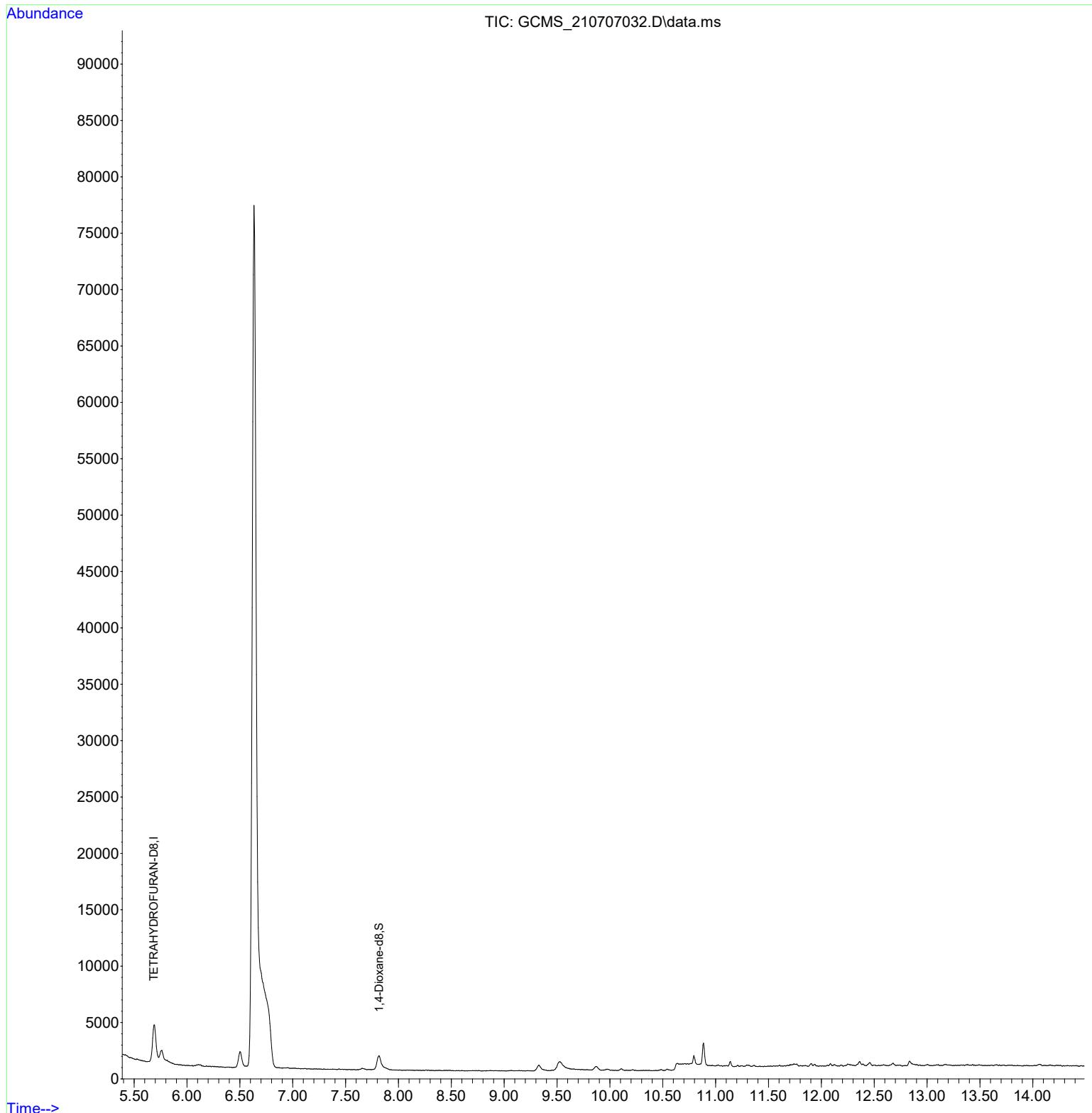
MAK 8/13/2021

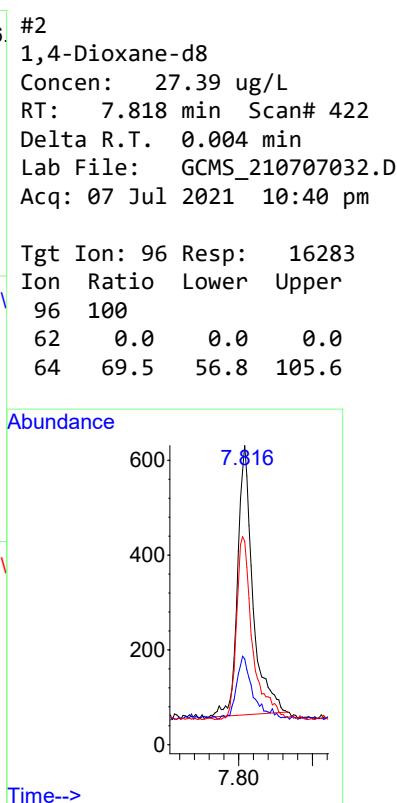
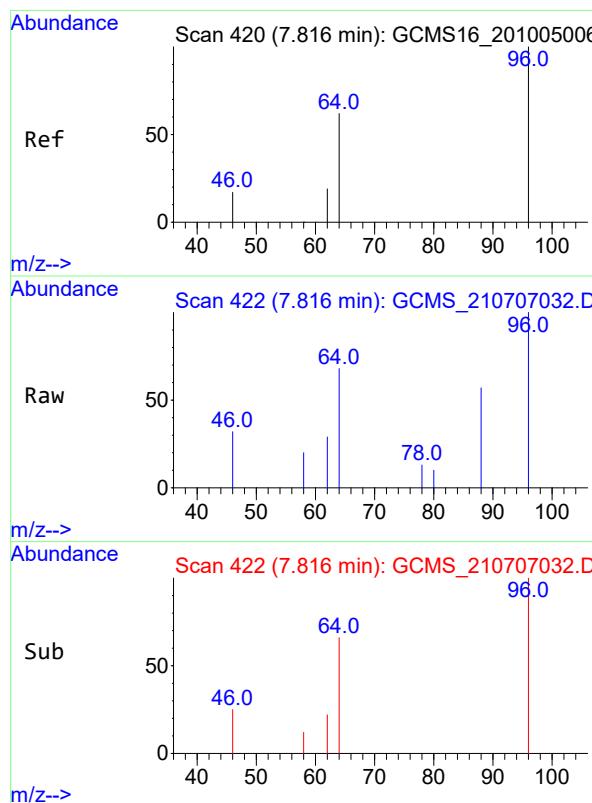
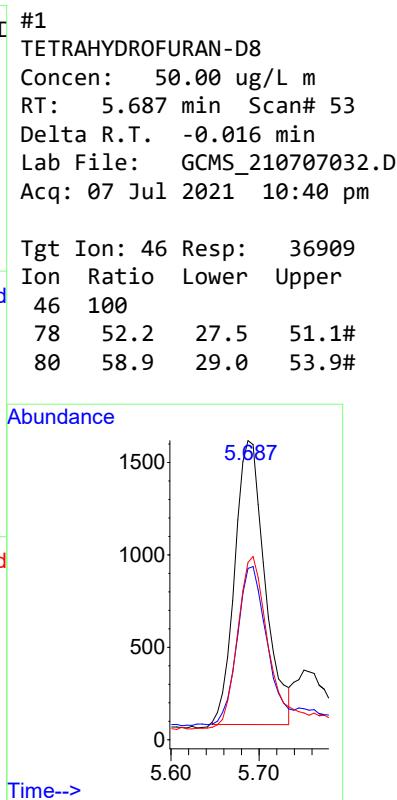
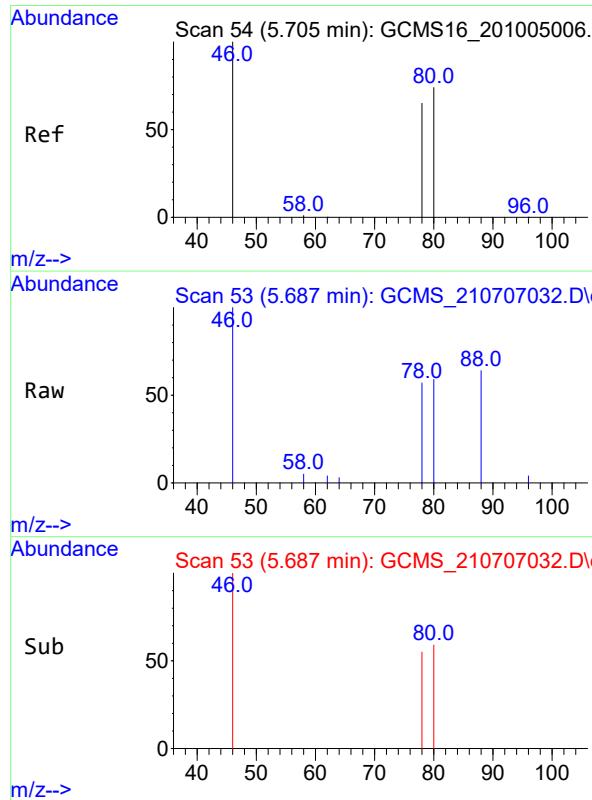
REVIEWED

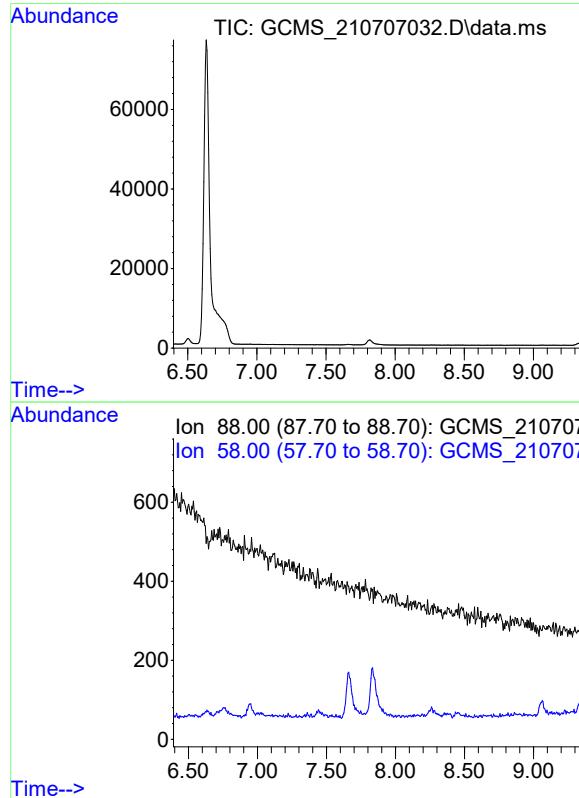
By Bruce Gallant at 8:59 am, Aug 17, 2021

Data Path : J:\Southeast Rockford Groundwater\4. MS\E210602 and E210603 14diox\Templates\GCMS16\Data\210707mak\  
Data File : GCMS\_210707032.D  
Acq On : 07 Jul 2021 10:40 pm  
Operator :  
Sample : E210603-05RE1  
Misc :  
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Jul 08 09:12:04 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration



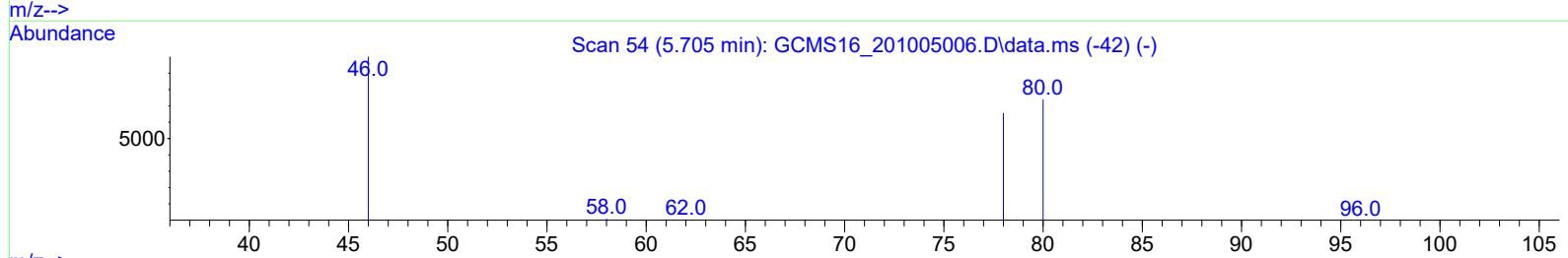
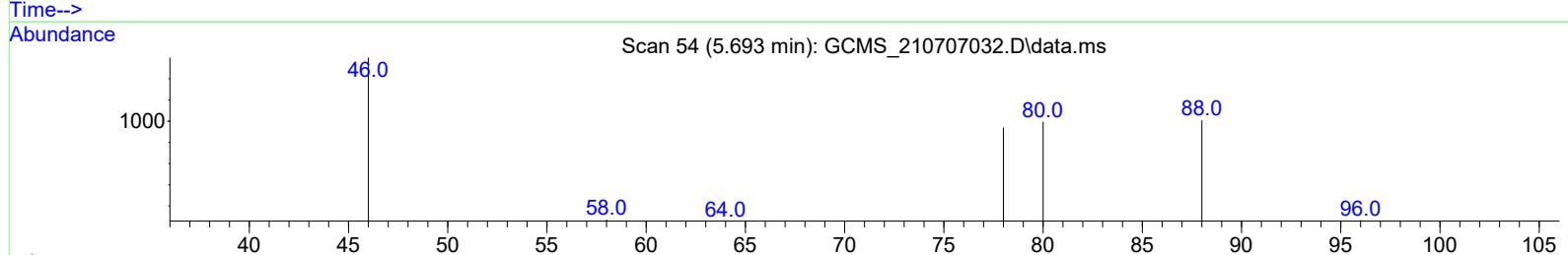
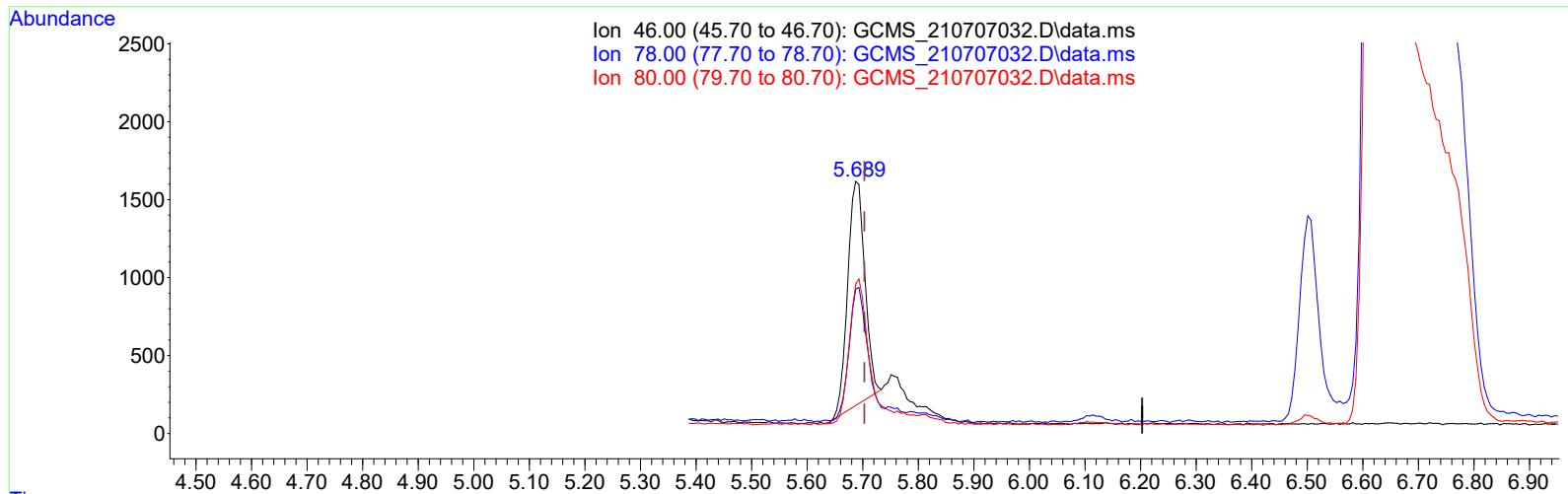




#3  
1,4-Dioxane  
Concen: N.D.  
Expected RT: 7.89 min  
  
Lab File: GCMS\_210707032.D  
Acq: 07 Jul 2021 10:40 pm  
  
Tgt Ion: 88  
Sig Exp Ratio  
88 100  
58 103.6

Data Path : D:\MassHunter\GCMS\1\data\210707mak\  
 Data File : GCMS\_210707032.D  
 Acq On : 07 Jul 2021 10:40 pm  
 Operator :  
 Sample : E210603-05RE1  
 Misc :  
 ALS Vial : 23 Sample Multiplier: 1

Quant Time: Jul 08 09:12:04 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210707032.D\data.ms

(1) TETRAHYDROFURAN-D8 (I)  
 5.691min (-0.012) 50.00 ug/L

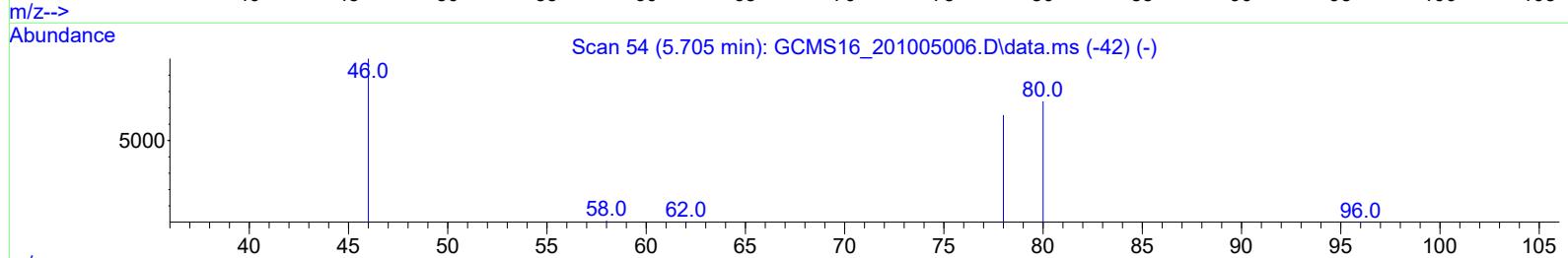
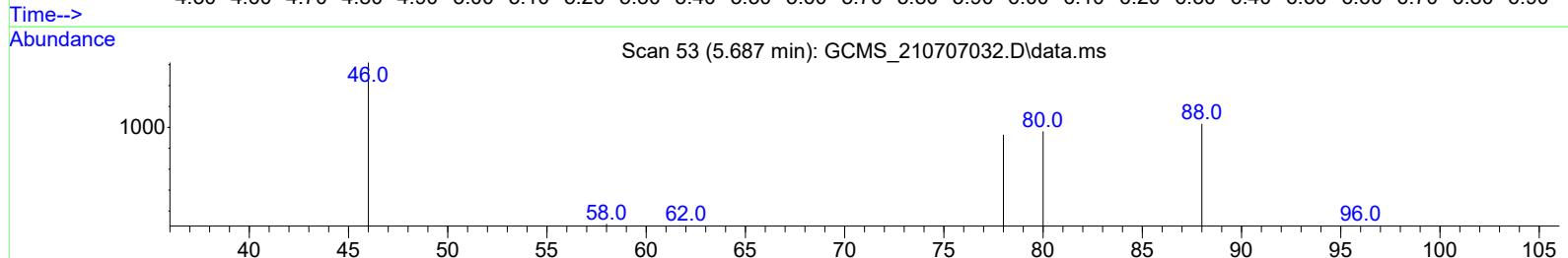
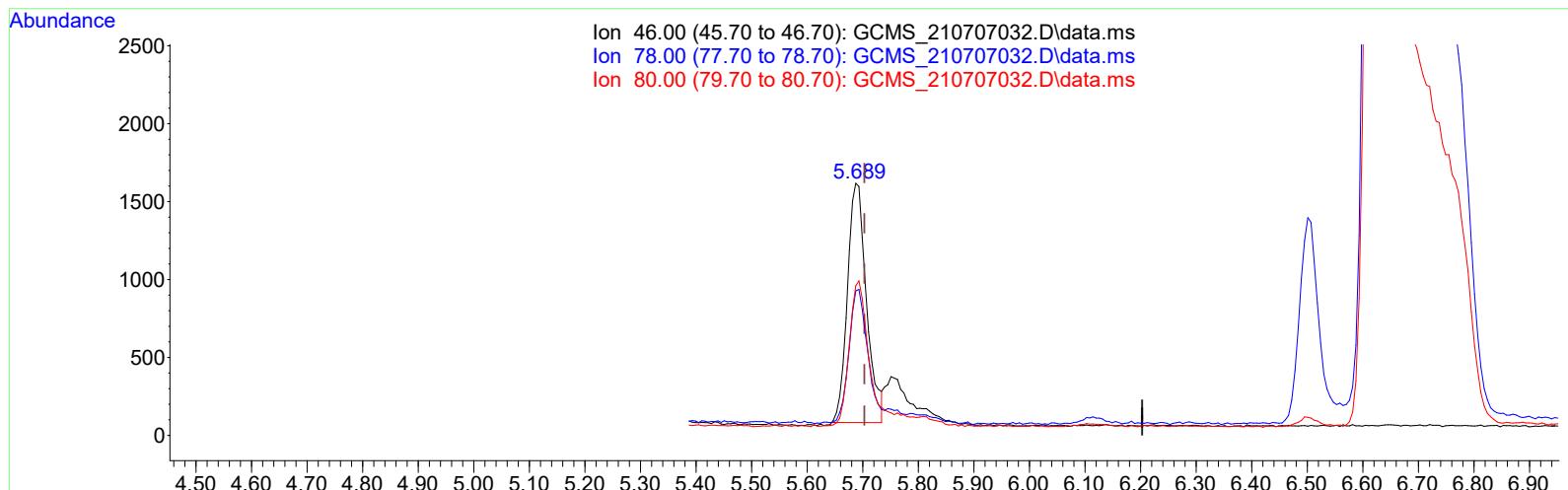
response 30467 Before I,B MAK 8/13/2021

Ion	Exp%	Act%
46.00	100.00	100.00
78.00	39.30	63.28#
80.00	41.50	71.31#
0.00	0.00	0.00

## Quantitation Report (Qedit)

Data Path : J:\Southeast Rockford Groundwater\4. MS\E210602 and E210603 14diox\Templates\GCMS16\Data\210707mak\  
 Data File : GCMS\_210707032.D  
 Acq On : 07 Jul 2021 10:40 pm  
 Operator :  
 Sample : E210603-05RE1  
 Misc :  
 ALS Vial : 23 Sample Multiplier: 1

Quant Time: Jul 08 09:12:04 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624.mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210707032.D\data.ms

(1) TETRAHYDROFURAN-D8 (I)

5.687min (-0.016) 50.00 ug/L m

response 36909

Ion	Exp%	Act%	After MAK 8/13/2021
46.00	100.00	100.00	
78.00	39.30	52.23#	
80.00	41.50	58.86#	
0.00	0.00	0.00	

**REVIEWED**  
By Bruce Gallant at 8:59 am, Aug 17, 2021

Data Path : J:\Southeast Rockford Groundwater\4. MS\E210602 and E210603 14diox\Templates\GCMS16\Data\210707mak\  
Data File : GCMS\_210707033.D  
Acq On : 07 Jul 2021 11:01 pm  
Operator :  
Sample : E210603-06RE1  
Misc :  
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Jul 08 09:12:06 2021

Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M

Quant Title : Initial Calibration of 1,4-Dioxane 021317

QLast Update : Thu Jun 24 15:10:43 2021

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	5.687	46	39951m	50.00	ug/L	-0.02
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	7.819	96	18911	29.39	ug/L	0.00
<hr/>						
Target Compounds				Qvalue		
3) 1,4-Dioxane	0.000		0	N.D.		
<hr/>						

MAK 8/13/2021

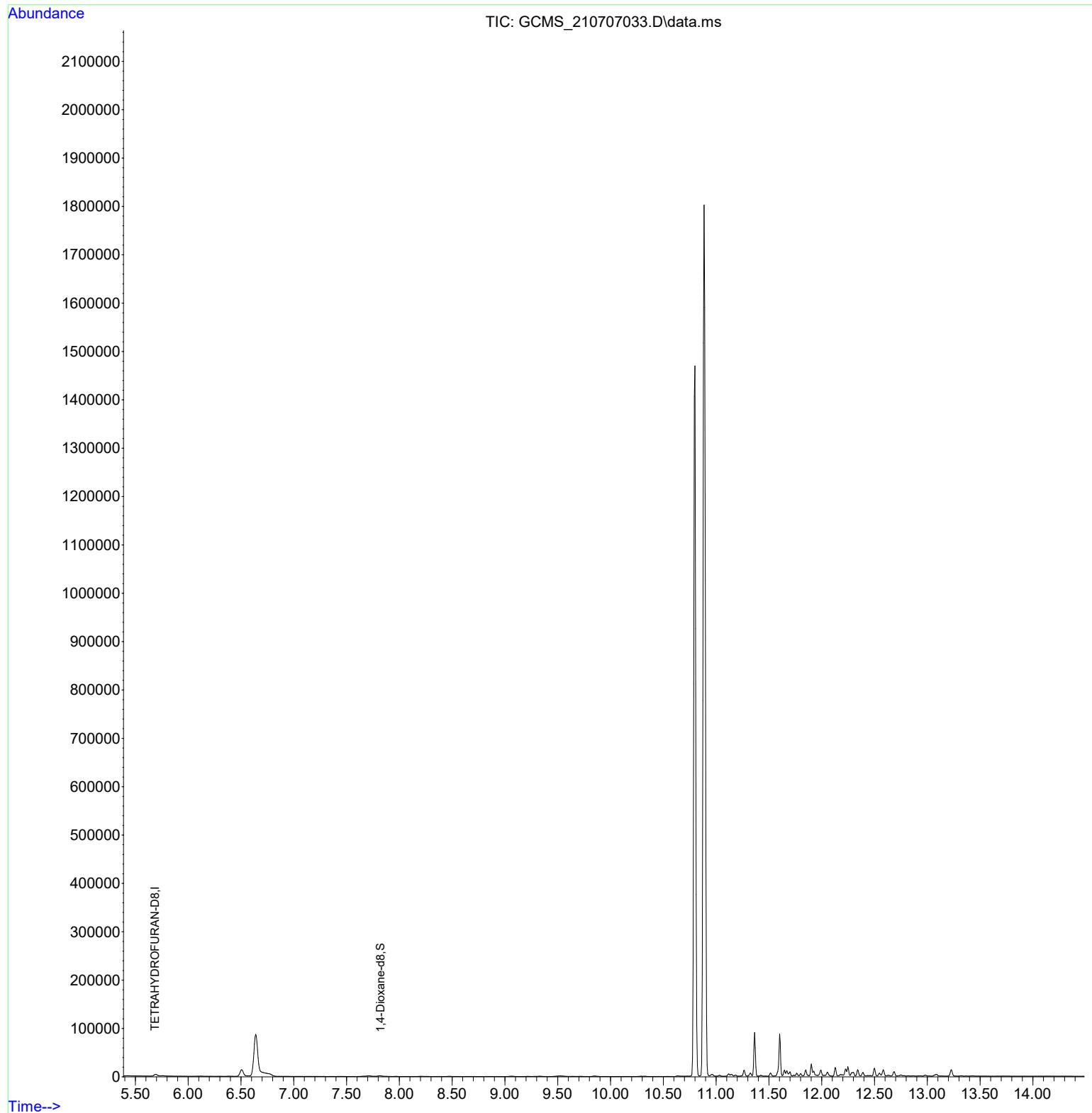
(#) = qualifier out of range (m) = manual integration (+) = signals summed

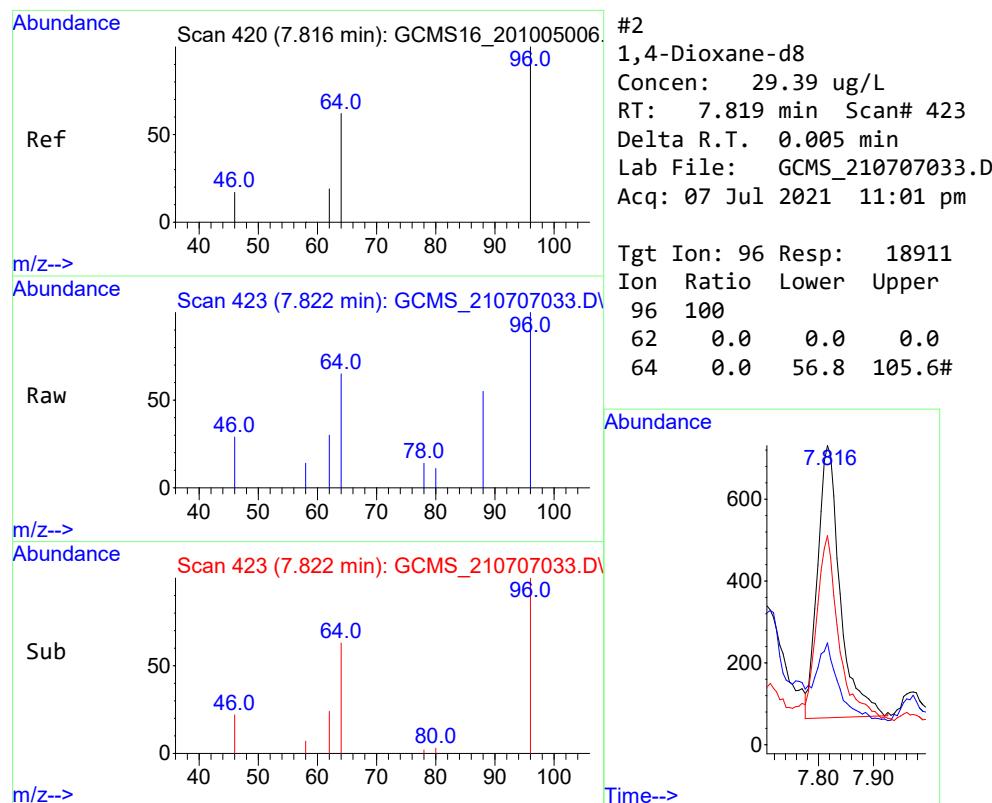
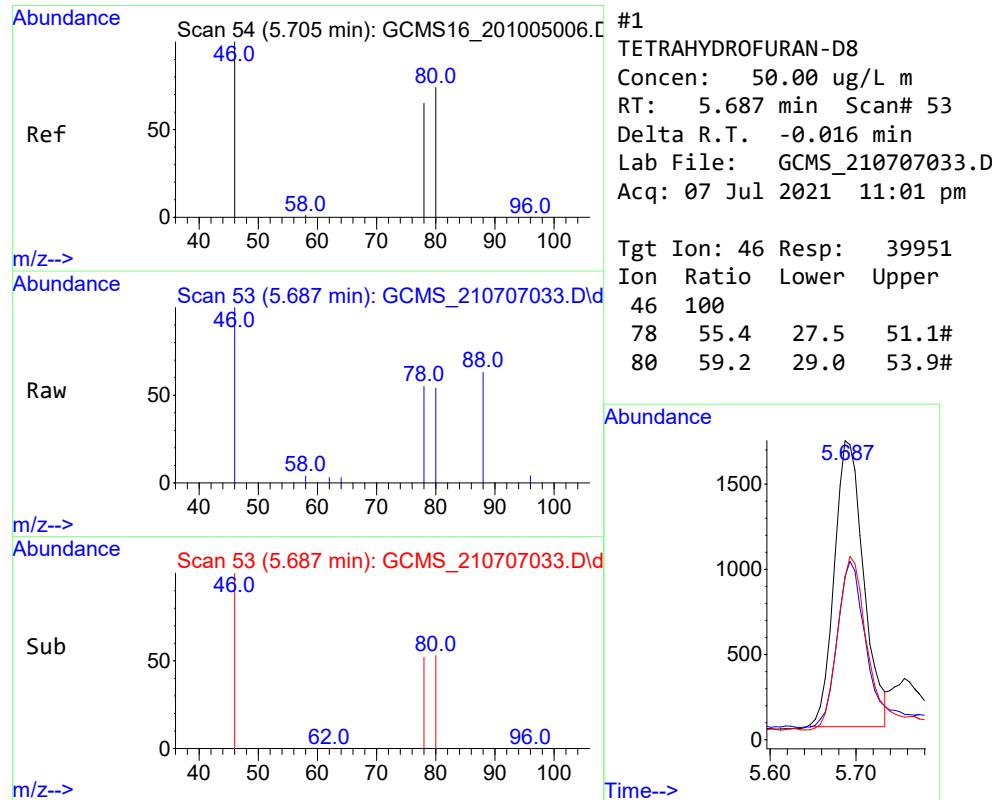
REVIEWED

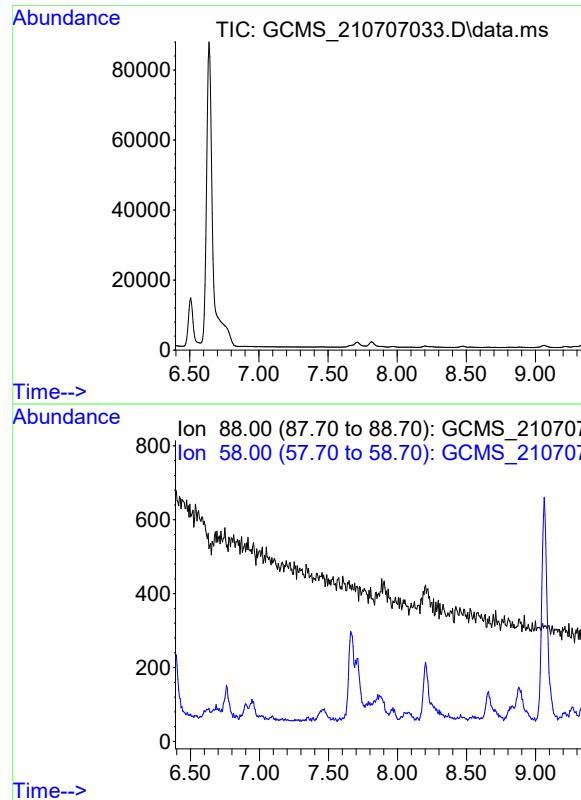
By Bruce Gallant at 8:59 am, Aug 17, 2021

Data Path : J:\Southeast Rockford Groundwater\4. MS\E210602 and E210603 14diox\Templates\GCMS16\Data\210707mak\  
Data File : GCMS\_210707033.D  
Acq On : 07 Jul 2021 11:01 pm  
Operator :  
Sample : E210603-06RE1  
Misc :  
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Jul 08 09:12:06 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624.mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration



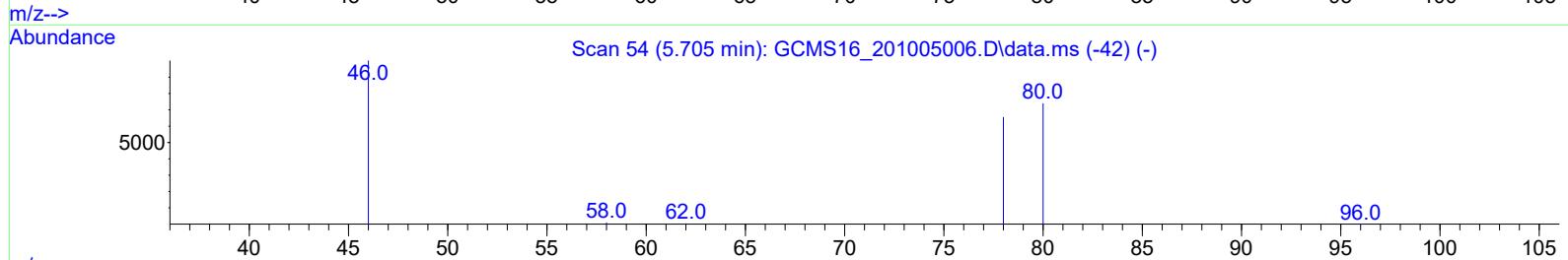
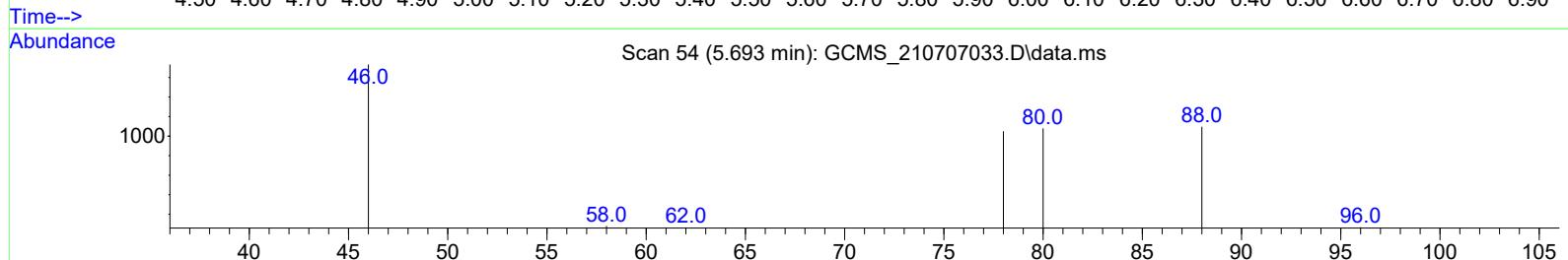
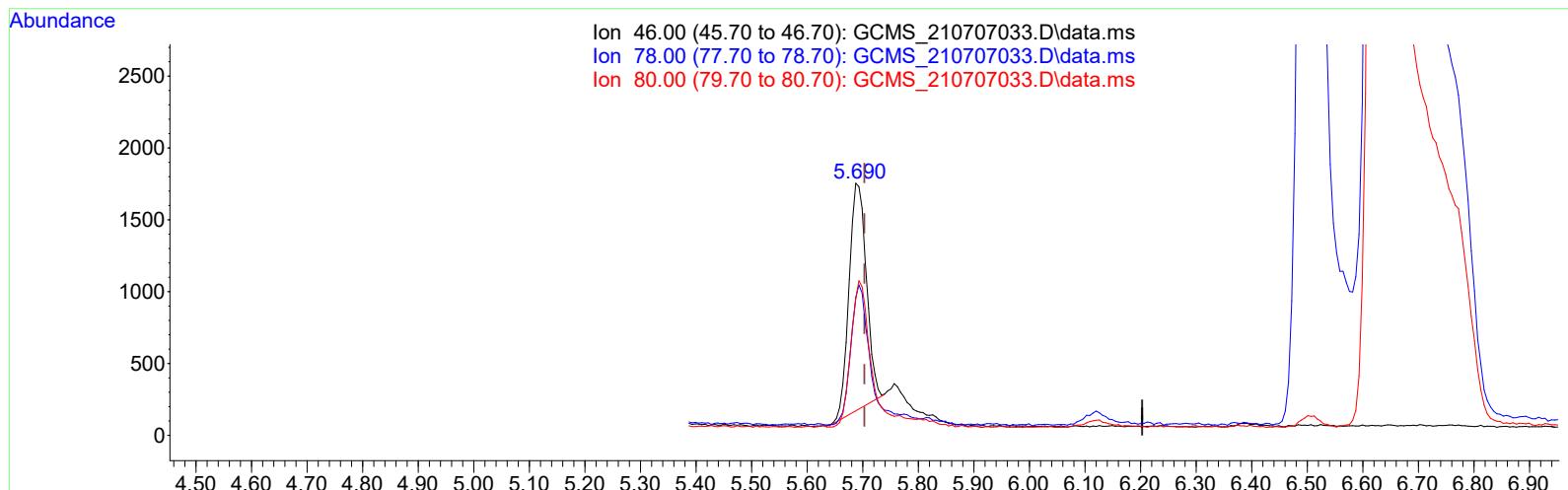




#3  
1,4-Dioxane  
Concen: N.D.  
Expected RT: 7.89 min  
  
Lab File: GCMS\_210707033.D  
Acq: 07 Jul 2021 11:01 pm  
  
Tgt Ion: 88  
Sig Exp Ratio  
88 100  
58 103.6

Data Path : D:\MassHunter\GCMS\1\data\210707mak\  
 Data File : GCMS\_210707033.D  
 Acq On : 07 Jul 2021 11:01 pm  
 Operator :  
 Sample : E210603-06RE1  
 Misc :  
 ALS Vial : 24 Sample Multiplier: 1

Quant Time: Jul 08 09:12:06 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210707033.D\data.ms

(1) TETRAHYDROFURAN-D8 (I)

5.693min (-0.010) 50.00 ug/L

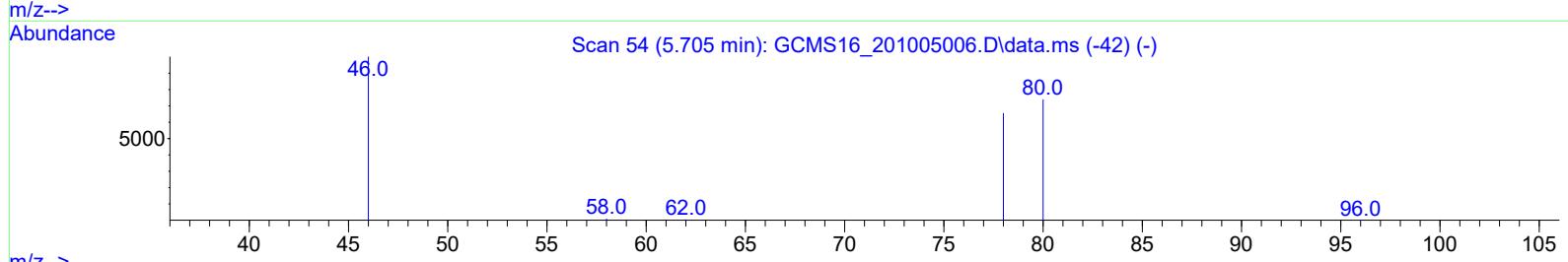
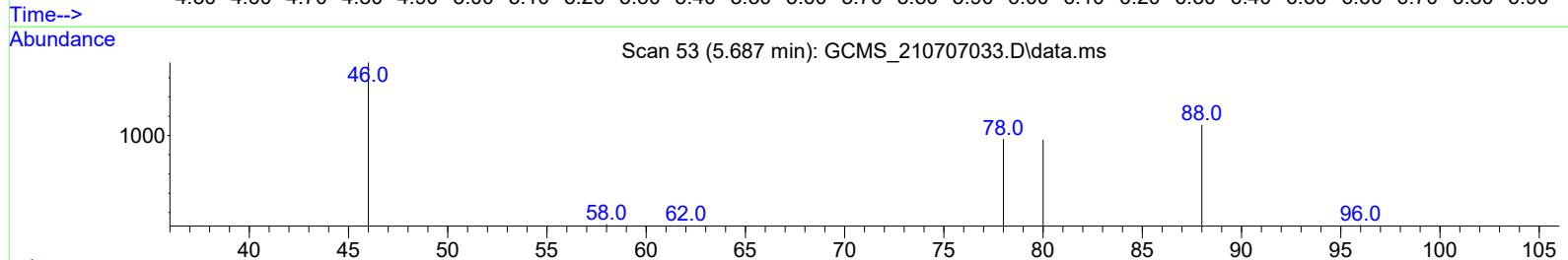
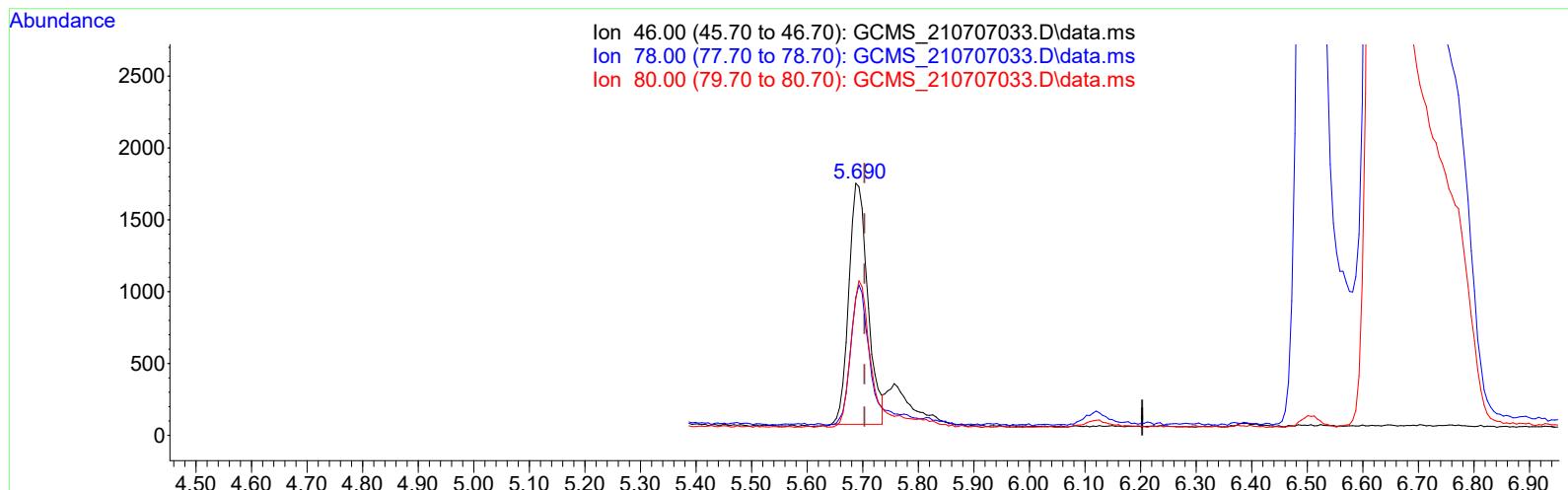
response 33933 Before I,B MAK 8/13/2021

Ion	Exp%	Act%
46.00	100.00	100.00
78.00	39.30	65.24#
80.00	41.50	69.74#
0.00	0.00	0.00

## Quantitation Report (Qedit)

Data Path : J:\Southeast Rockford Groundwater\4. MS\E210602 and E210603 14diox\Templates\GCMS16\Data\210707mak\  
 Data File : GCMS\_210707033.D  
 Acq On : 07 Jul 2021 11:01 pm  
 Operator :  
 Sample : E210603-06RE1  
 Misc :  
 ALS Vial : 24 Sample Multiplier: 1

Quant Time: Jul 08 09:12:06 2021  
 Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624.mak.M  
 Quant Title : Initial Calibration of 1,4-Dioxane 021317  
 QLast Update : Thu Jun 24 15:10:43 2021  
 Response via : Initial Calibration



TIC: GCMS\_210707033.D\data.ms

(1) TETRAHYDROFURAN-D8 (I)

5.687min (-0.016) 50.00 ug/L m

After MAK 8/13/2021

response 39951

REVIEWED

By Bruce Gallant at 9:00 am, Aug 17, 2021

Ion	Exp%	Act%
46.00	100.00	100.00
78.00	39.30	55.41#
80.00	41.50	59.23#
0.00	0.00	0.00

## **Supporting Data**

Data Path : D:\MassHunter\GCMS\1\data\210624\_mak\  
Data File : GCMS\_210624017.D  
Acq On : 24 Jun 2021 02:36 pm  
Operator :  
Sample : CAL BLK  
Misc :  
ALS Vial : 4 Sample Multiplier: 1

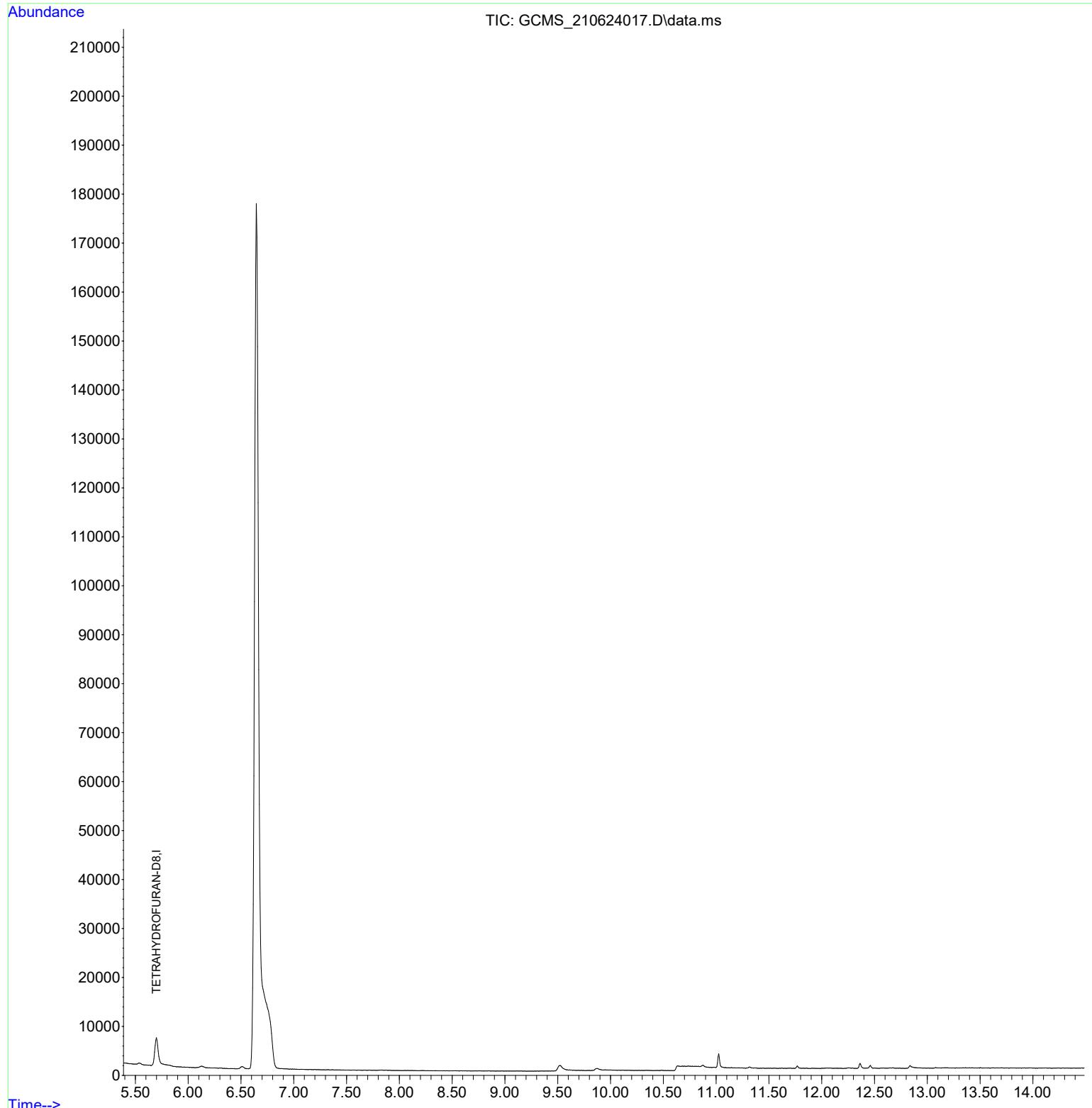
Quant Time: Jun 24 15:11:56 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration

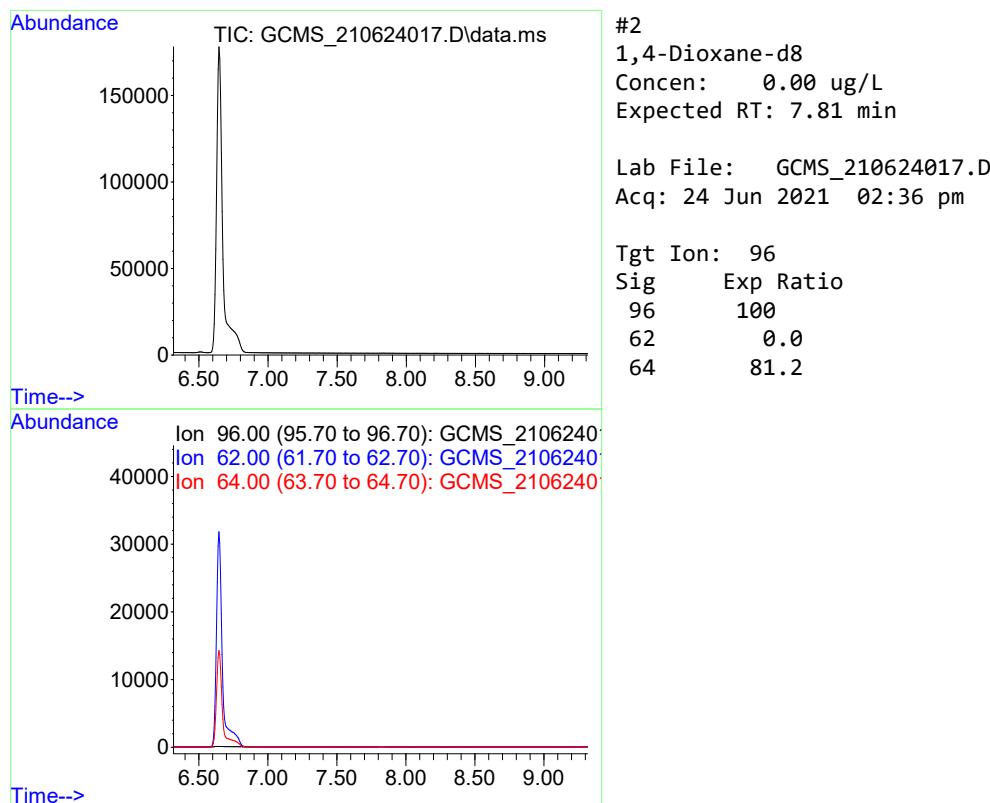
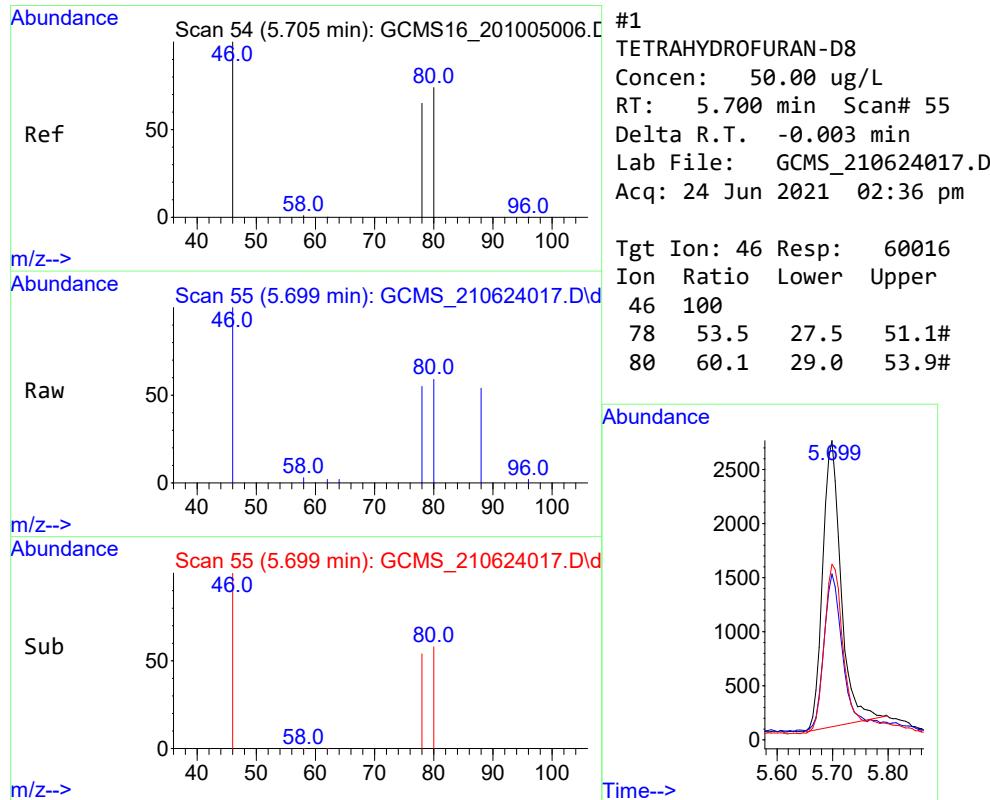
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	5.700	46	60016	50.00	ug/L	# 0.00
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	0.000	96	0	0.00	ug/L	
<hr/>						
Target Compounds					Qvalue	
3) 1,4-Dioxane	0.000		0	N.D.		
<hr/>						

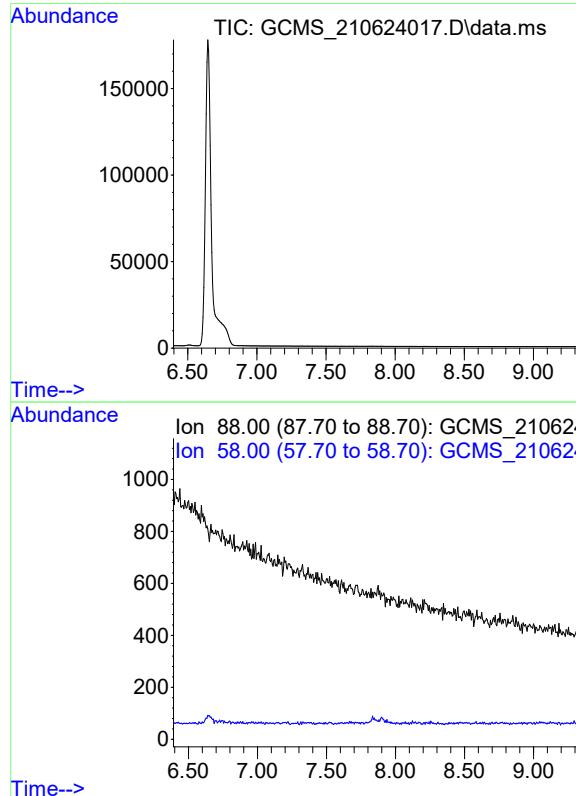
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : D:\MassHunter\GCMS\1\data\210624\_mak\  
Data File : GCMS\_210624017.D  
Acq On : 24 Jun 2021 02:36 pm  
Operator :  
Sample : CAL BLK  
Misc :  
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 24 15:11:56 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration







#3  
1,4-Dioxane  
Concen: N.D.  
Expected RT: 7.89 min

Lab File: GCMS\_210624017.D  
Acq: 24 Jun 2021 02:36 pm

Tgt Ion: 88  
Sig Exp Ratio  
88 100  
58 103.6

Data Path : J:\Southeast Rockford Groundwater\4. MS\E210602 and E210603 14diox\Templates\GCMS16\Data\210630Amak\  
Data File : GCMS\_210630006.D  
Acq On : 30 Jun 2021 18:06  
Operator :  
Sample : CAL BLK  
Misc :  
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 01 11:29:56 2021

Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M

Quant Title : Initial Calibration of 1,4-Dioxane 021317

QLast Update : Thu Jun 24 15:10:43 2021

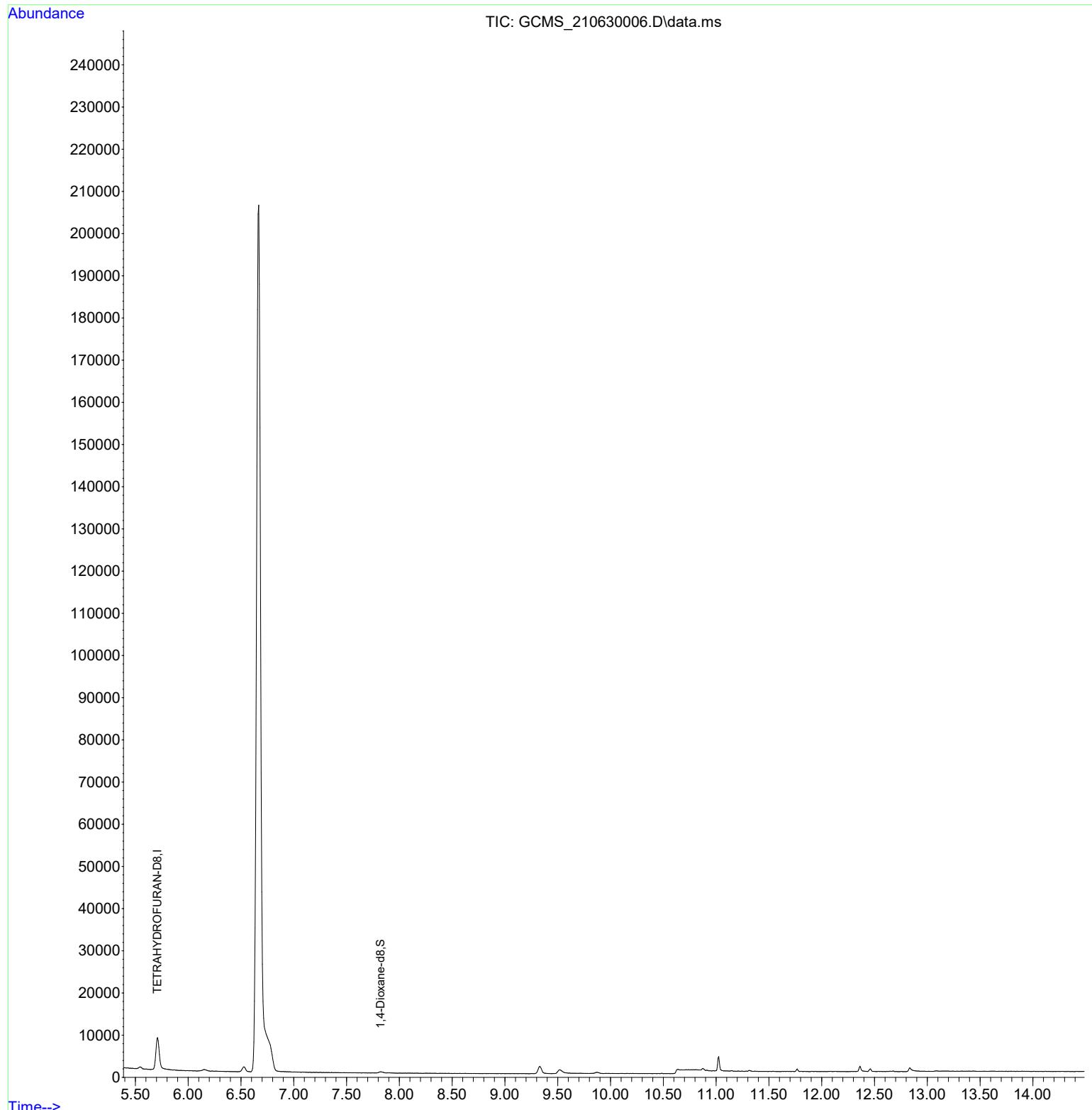
Response via : Initial Calibration

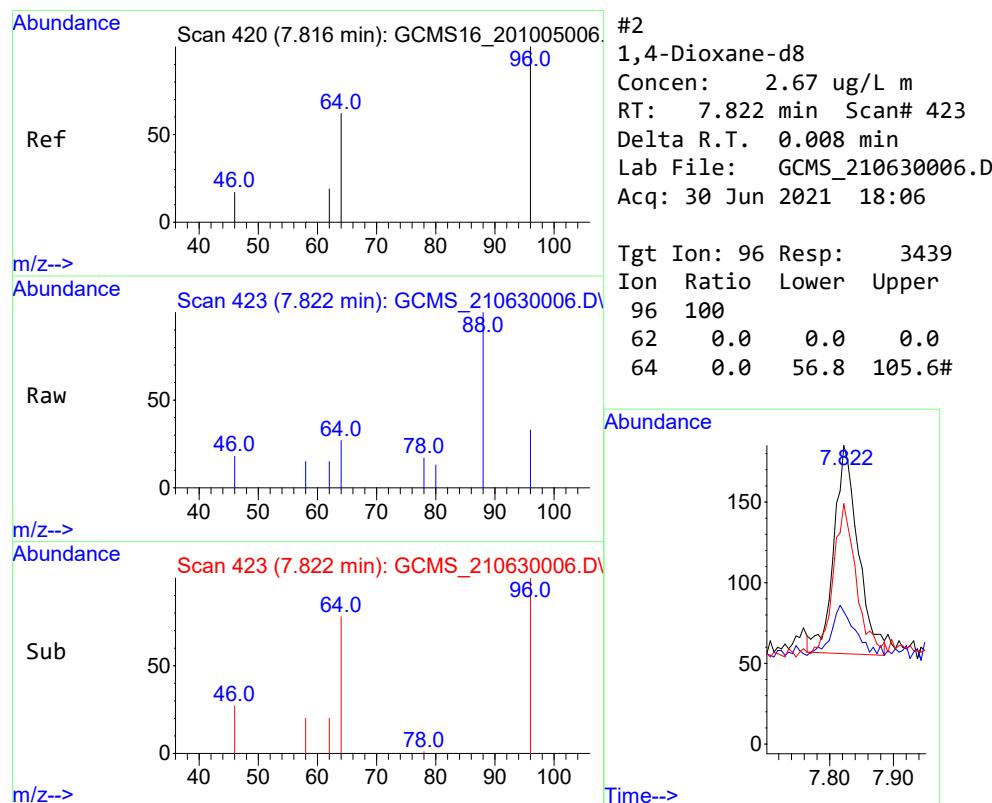
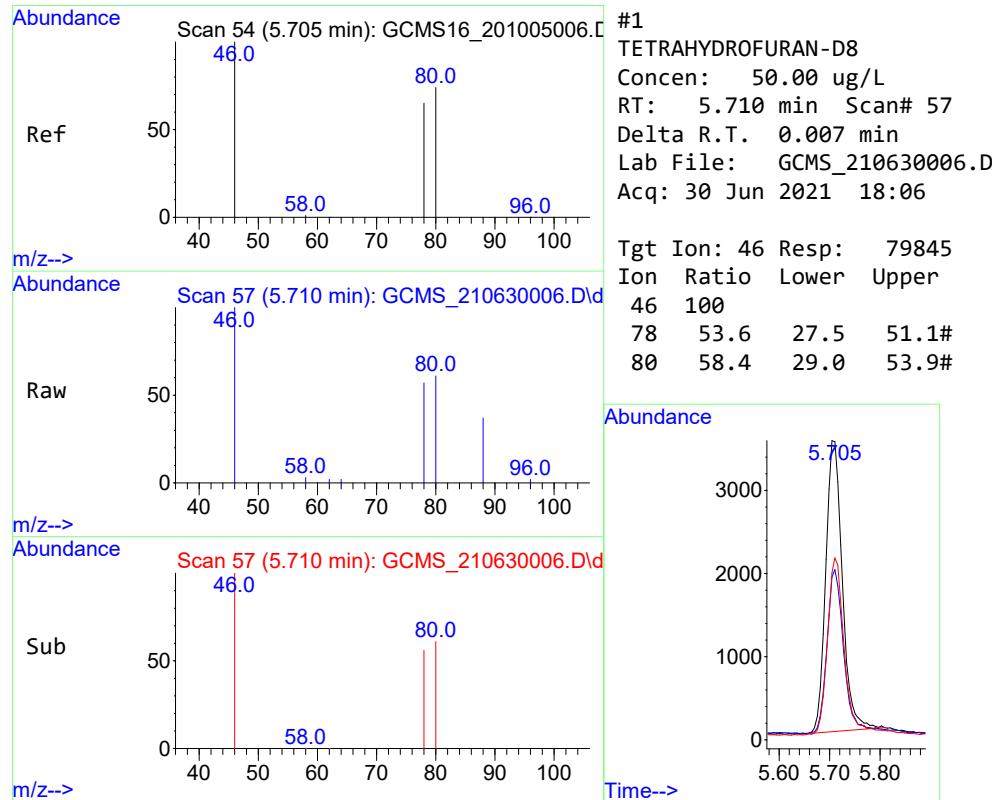
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	5.710	46	79845	50.00	ug/L	# 0.00
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	7.822	96	3439m	2.67	ug/L	0.00
<hr/>						
Target Compounds				Qvalue		
3) 1,4-Dioxane	0.000		0	N.D.		
<hr/>						

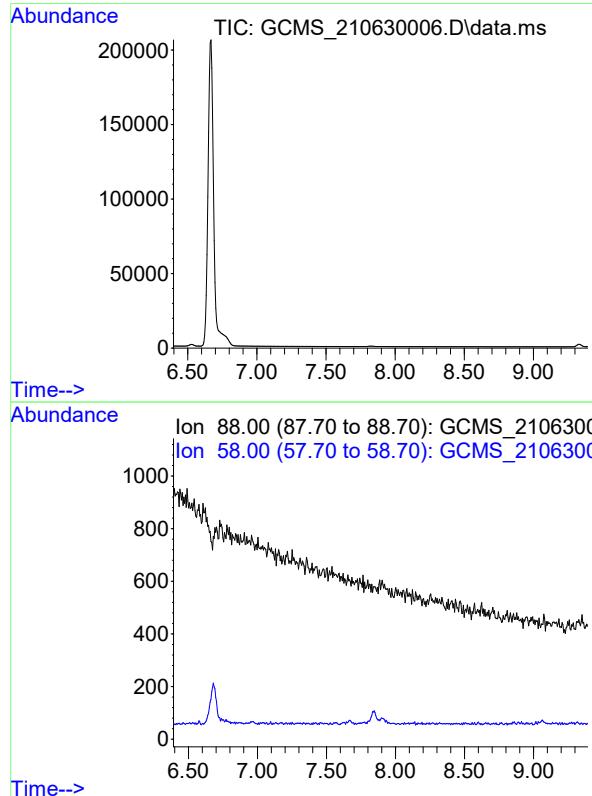
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : J:\Southeast Rockford Groundwater\4. MS\E210602 and E210603 14diox\Templates\GCMS16\Data\210630Amak\  
Data File : GCMS\_210630006.D  
Acq On : 30 Jun 2021 18:06  
Operator :  
Sample : CAL BLK  
Misc :  
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 01 11:29:56 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration







#3  
1,4-Dioxane  
Concen: N.D.  
Expected RT: 7.89 min

Lab File: GCMS\_210630006.D  
Acq: 30 Jun 2021 18:06

Tgt Ion: 88  
Sig Exp Ratio  
88 100  
58 103.6

Data Path : J:\Southeast Rockford Groundwater\4. MS\E210602 and E210603 14diox\Templates\GCMS16\Data\210624.mak\  
Data File : GCMS\_210624017.D  
Acq On : 24 Jun 2021 14:36  
Operator :  
Sample : CAL BLK  
Misc :  
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 24 15:11:56 2021

Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624.mak.M

Quant Title : Initial Calibration of 1,4-Dioxane 021317

QLast Update : Thu Jun 24 15:10:43 2021

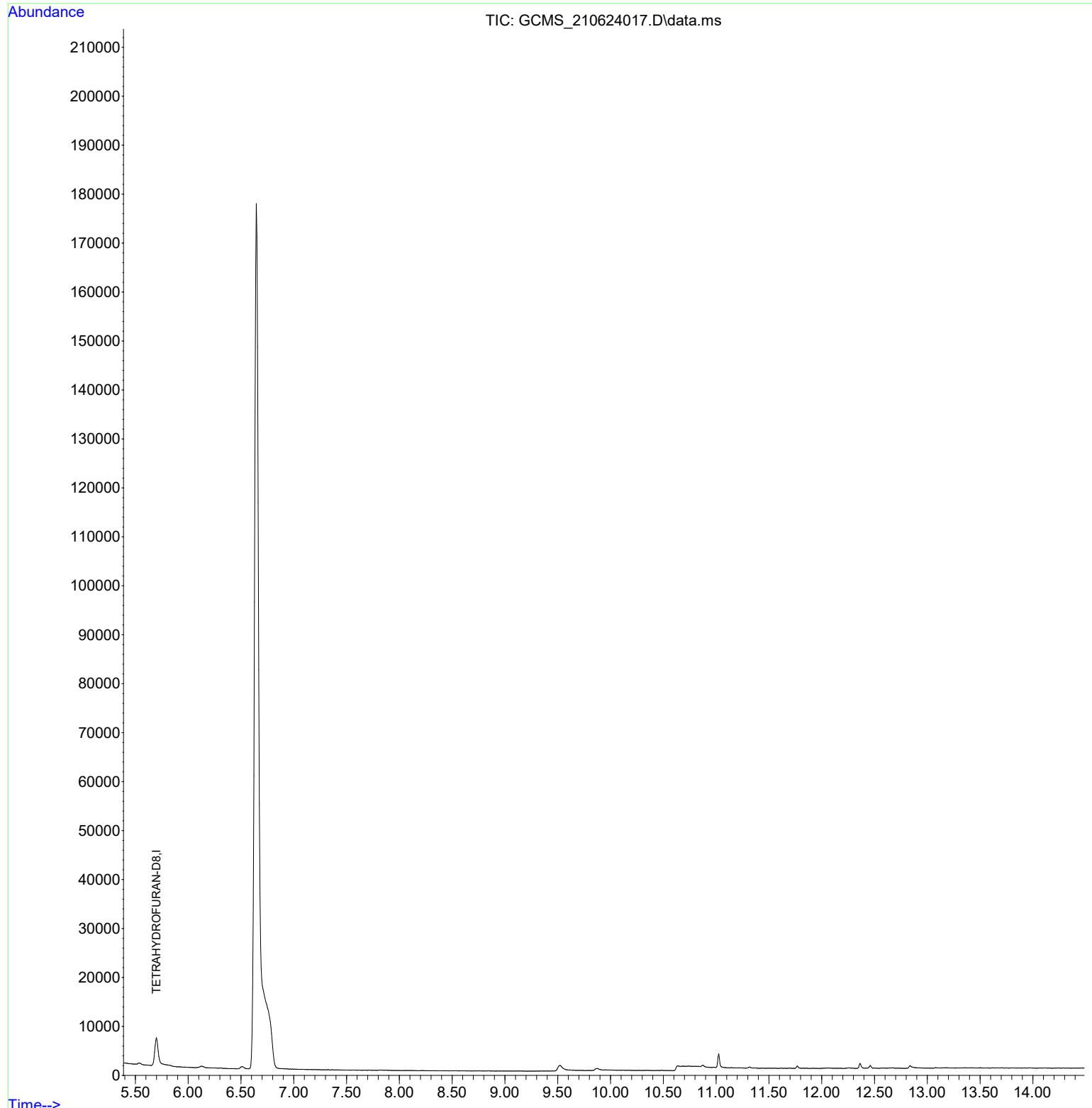
Response via : Initial Calibration

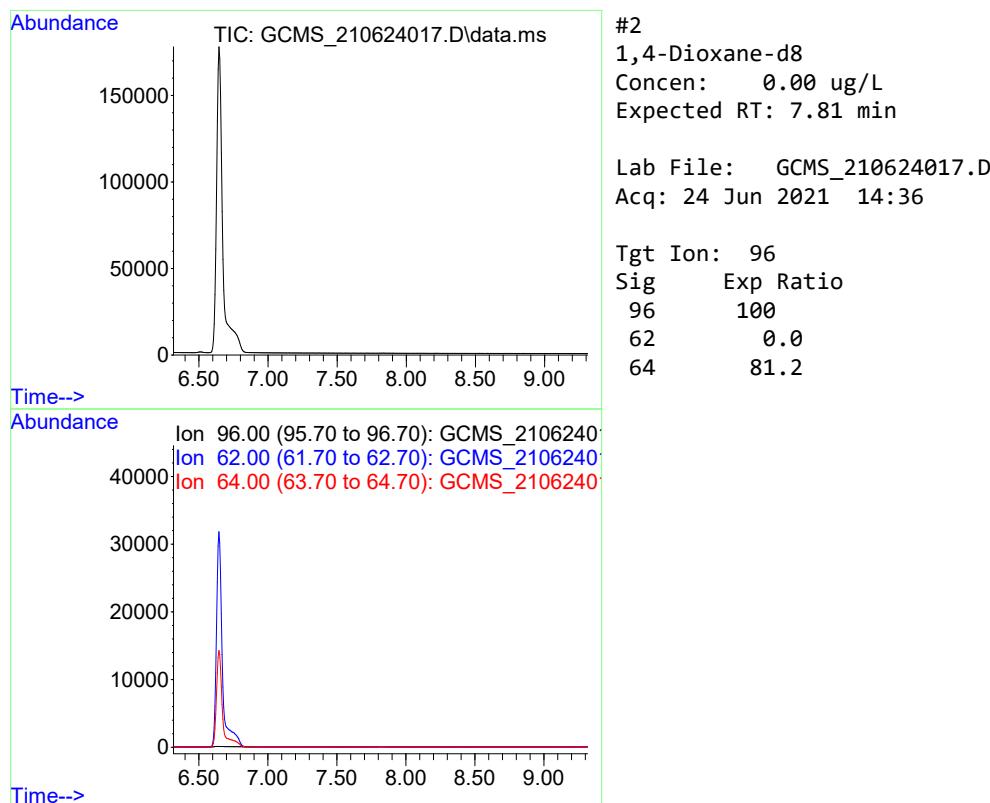
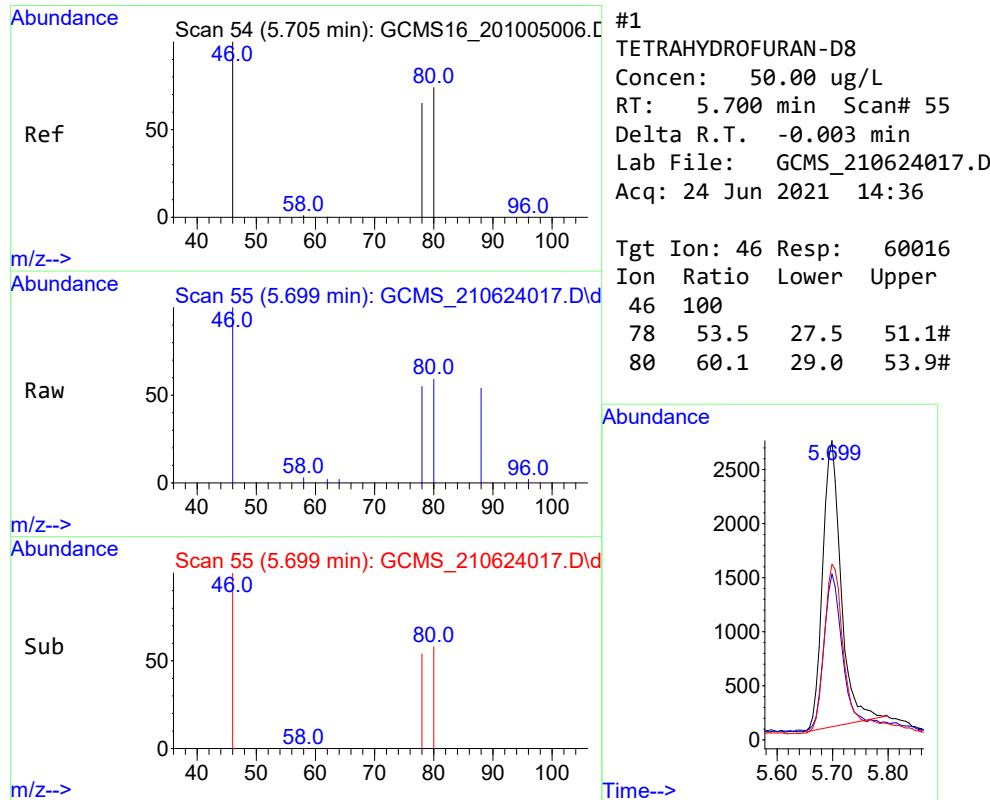
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	5.700	46	60016	50.00	ug/L	# 0.00
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	0.000	96	0	0.00	ug/L	
<hr/>						
Target Compounds					Qvalue	
3) 1,4-Dioxane	0.000		0	N.D.		

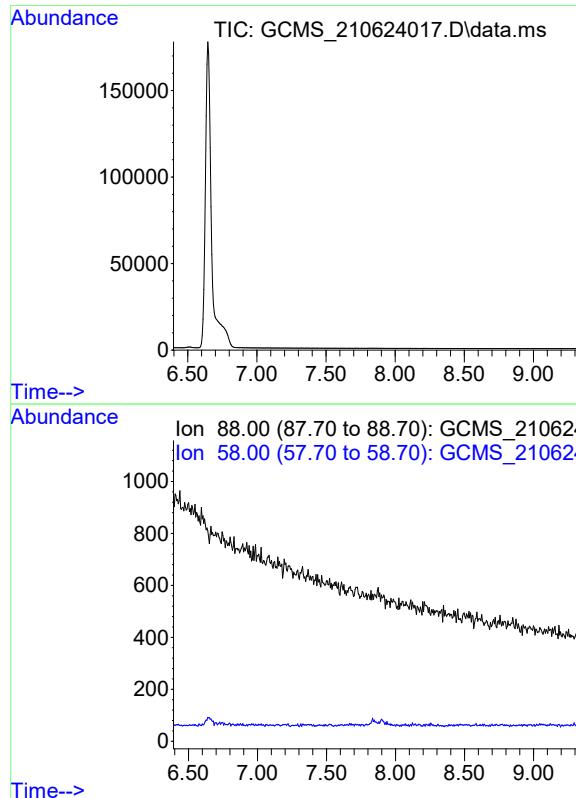
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : J:\Southeast Rockford Groundwater\4. MS\E210602 and E210603 14diox\Templates\GCMS16\Data\210624.mak\  
Data File : GCMS\_210624017.D  
Acq On : 24 Jun 2021 14:36  
Operator :  
Sample : CAL BLK  
Misc :  
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 24 15:11:56 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624.mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration







#3  
 1,4-Dioxane  
 Concen: N.D.  
 Expected RT: 7.89 min

Lab File: GCMS\_210624017.D  
 Acq: 24 Jun 2021 14:36

Tgt Ion: 88  
 Sig Exp Ratio  
 88 100  
 58 103.6

Data Path : J:\Southeast Rockford Groundwater\4. MS\E210602 and E210603 14diox\Templates\GCMS16\Data\210630Amak\  
Data File : GCMS\_210630028.D  
Acq On : 01 Jul 2021 01:51  
Operator :  
Sample : CAL BLK  
Misc :  
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 01 11:31:54 2021

Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M

Quant Title : Initial Calibration of 1,4-Dioxane 021317

QLast Update : Thu Jun 24 15:10:43 2021

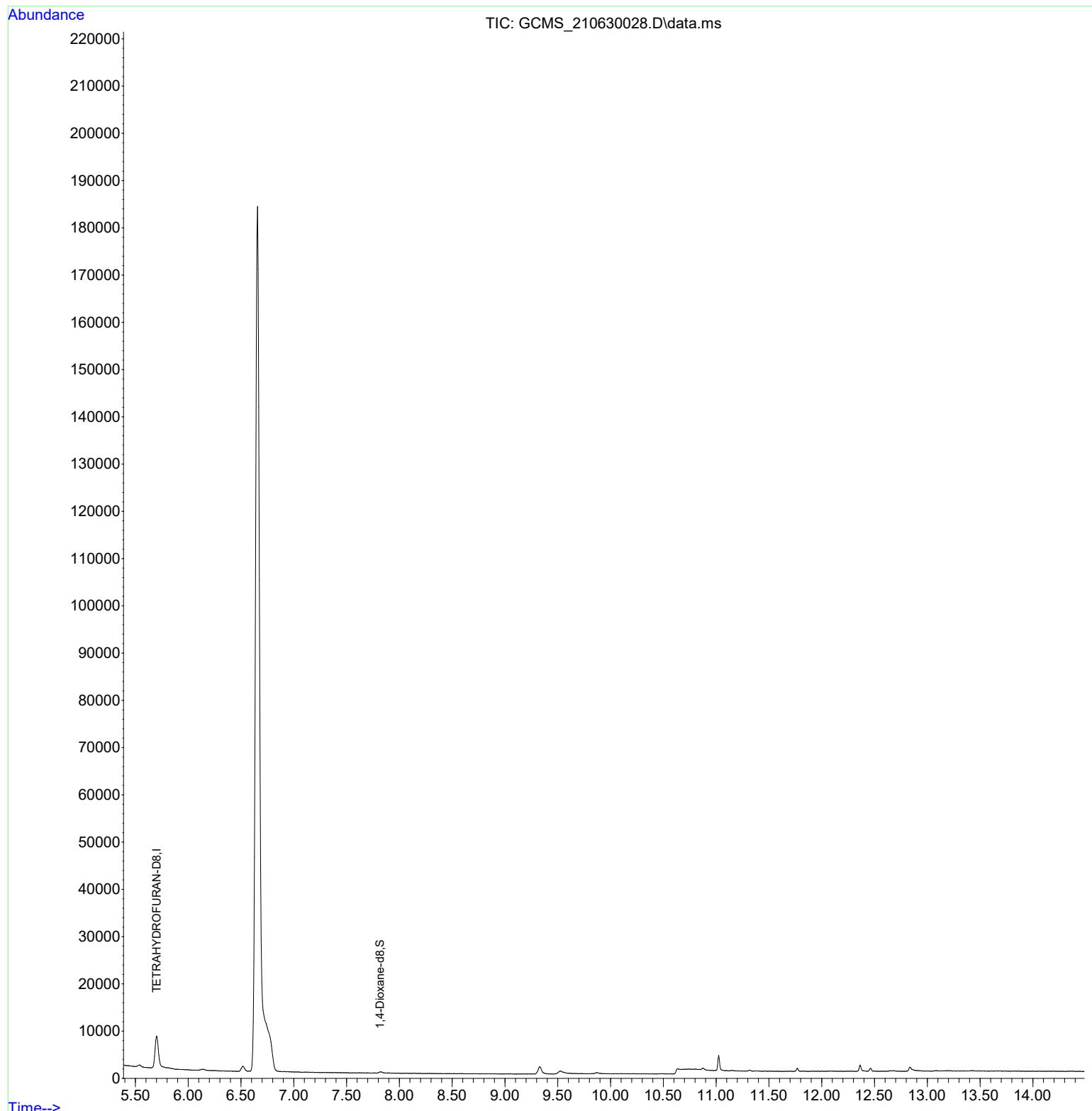
Response via : Initial Calibration

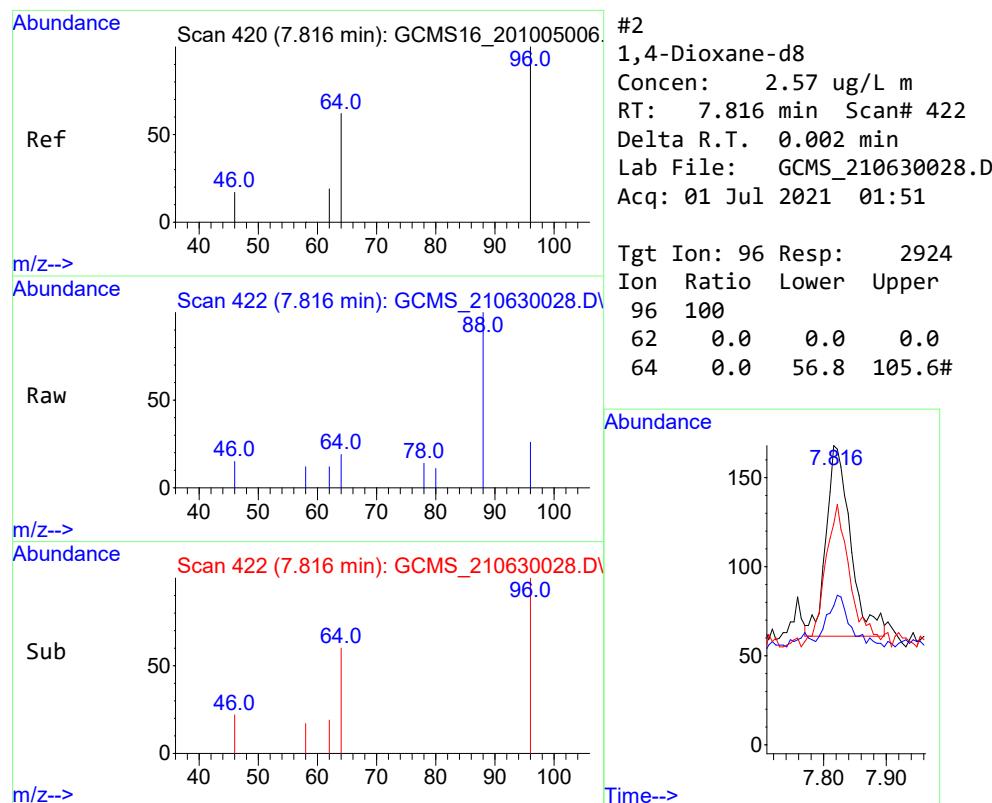
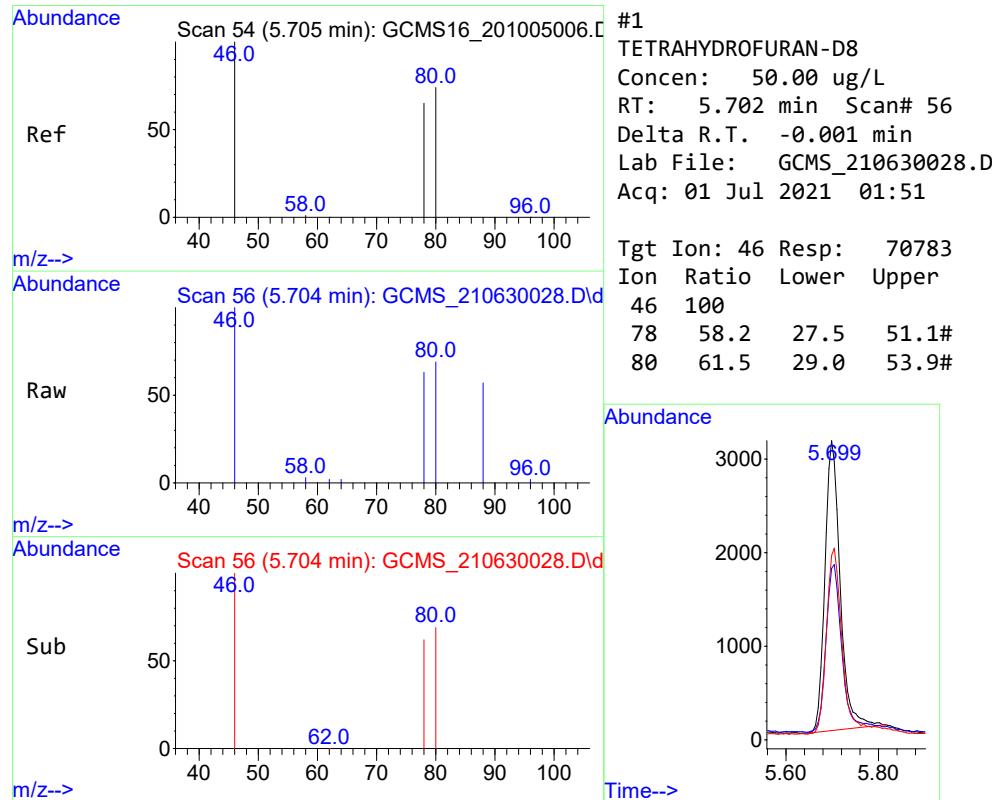
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	5.702	46	70783	50.00	ug/L	# 0.00
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	7.816	96	2924m	2.57	ug/L	0.00
<hr/>						
Target Compounds				Qvalue		
3) 1,4-Dioxane	0.000		0	N.D.		
<hr/>						

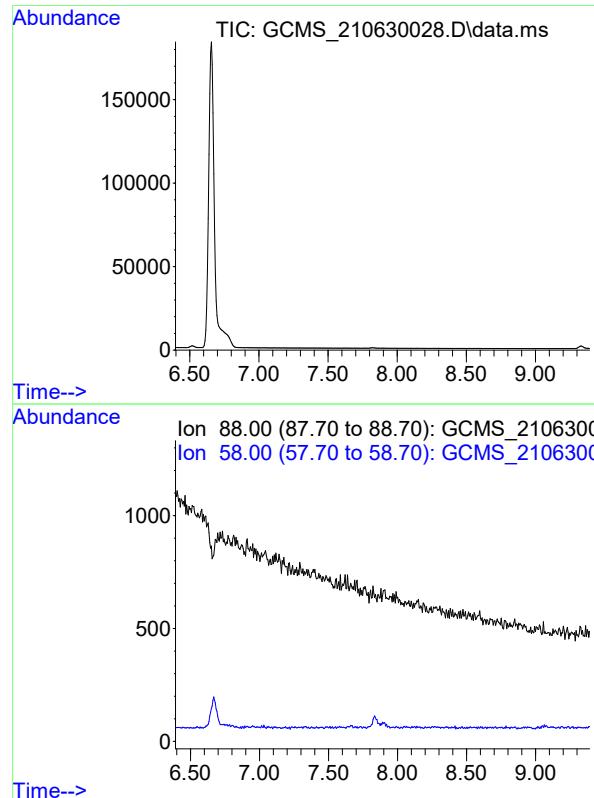
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : J:\Southeast Rockford Groundwater\4. MS\E210602 and E210603 14diox\Templates\GCMS16\Data\210630Amak\  
Data File : GCMS\_210630028.D  
Acq On : 01 Jul 2021 01:51  
Operator :  
Sample : CAL BLK  
Misc :  
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 01 11:31:54 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration







#3  
1,4-Dioxane  
Concen: N.D.  
Expected RT: 7.89 min

Lab File: GCMS\_210630028.D  
Acq: 01 Jul 2021 01:51

Tgt Ion: 88  
Sig Exp Ratio  
88 100  
58 103.6

Data Path : J:\Southeast Rockford Groundwater\4. MS\E210602 and E210603 14diox\Templates\GCMS16\Data\210707mak\  
Data File : GCMS\_210707013.D  
Acq On : 07 Jul 2021 03:57 pm  
Operator :  
Sample : CAL BLK  
Misc :  
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 07 16:12:55 2021

Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M

Quant Title : Initial Calibration of 1,4-Dioxane 021317

QLast Update : Thu Jun 24 15:10:43 2021

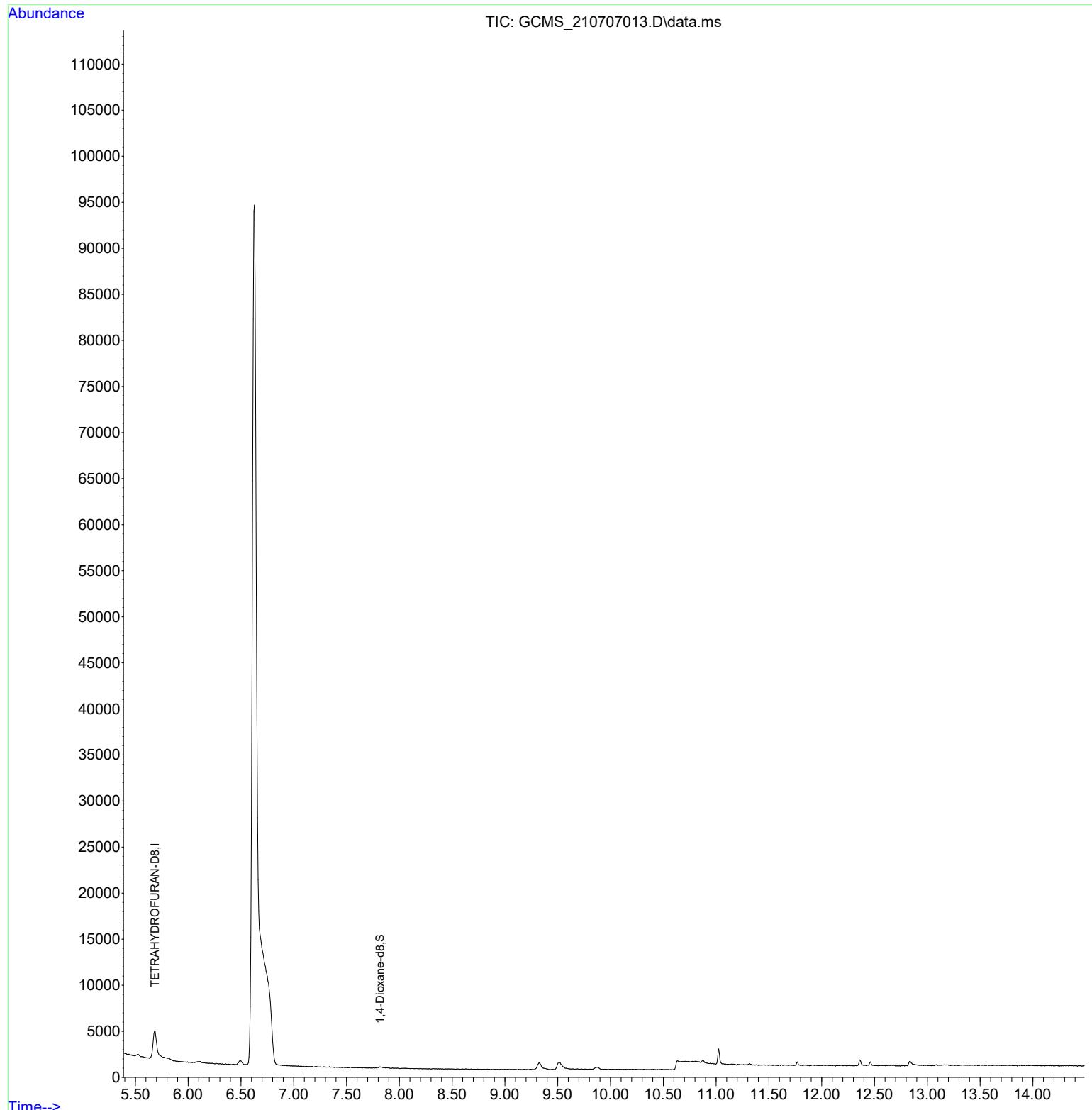
Response via : Initial Calibration

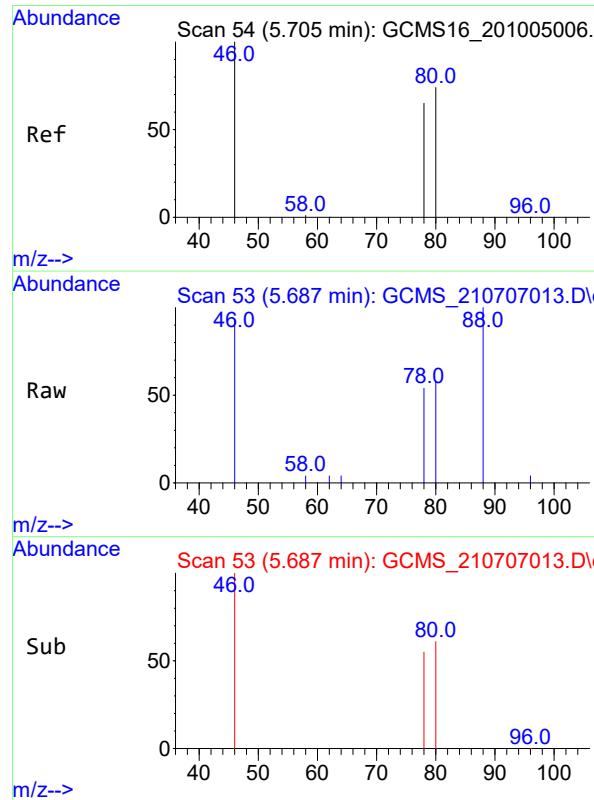
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	5.685	46	44553	50.00	ug/L	-0.02
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	7.816	96	2172m	3.03	ug/L	0.00
<hr/>						
Target Compounds				Qvalue		
3) 1,4-Dioxane	0.000		0	N.D.		
<hr/>						

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : J:\Southeast Rockford Groundwater\4. MS\E210602 and E210603 14diox\Templates\GCMS16\Data\210707mak\  
Data File : GCMS\_210707013.D  
Acq On : 07 Jul 2021 03:57 pm  
Operator :  
Sample : CAL BLK  
Misc :  
ALS Vial : 4 Sample Multiplier: 1

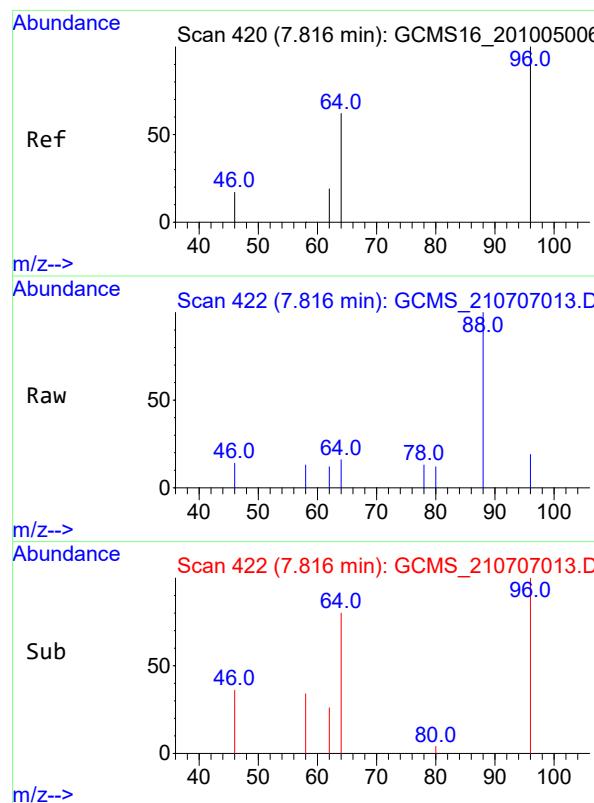
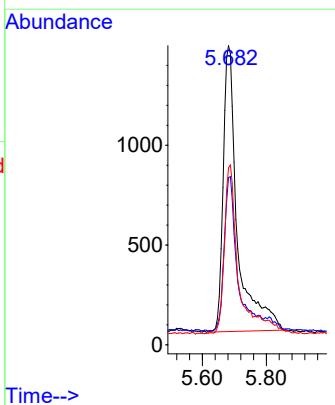
Quant Time: Jul 07 16:12:55 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration





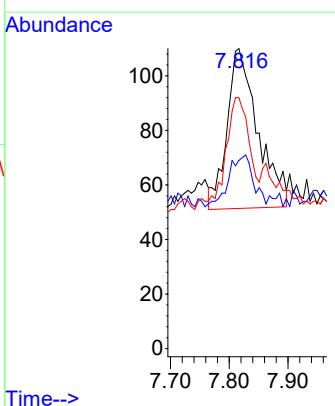
#1  
**TETRAHYDROFURAN-D8**  
Concen: 50.00 ug/L  
RT: 5.685 min Scan# 53  
Delta R.T. -0.018 min  
Lab File: GCMS\_210707013.D  
Acq: 07 Jul 2021 03:57 pm

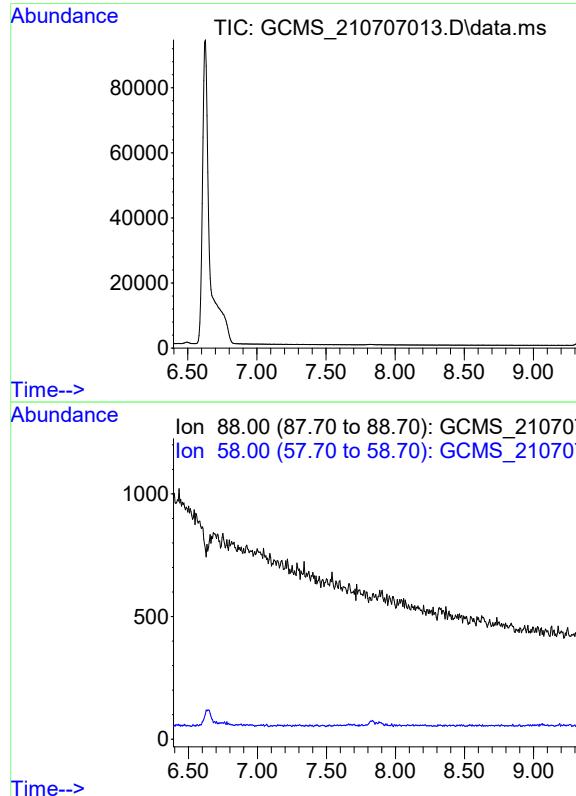
Tgt Ion: 46 Resp: 44553  
Ion Ratio Lower Upper  
46 100  
78 43.0 27.5 51.1  
80 44.1 29.0 53.9



#2  
**1,4-Dioxane-d8**  
Concen: 3.03 ug/L m  
RT: 7.816 min Scan# 422  
Delta R.T. 0.002 min  
Lab File: GCMS\_210707013.D  
Acq: 07 Jul 2021 03:57 pm

Tgt Ion: 96 Resp: 2172  
Ion Ratio Lower Upper  
96 100  
62 0.0 0.0 0.0  
64 0.0 56.8 105.6#





#3  
1,4-Dioxane  
Concen: N.D.  
Expected RT: 7.89 min

Lab File: GCMS\_210707013.D  
Acq: 07 Jul 2021 03:57 pm

Tgt Ion: 88  
Sig Exp Ratio  
88 100  
58 103.6



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8/6/2021

**Analytical Standard Record**

**ICF- ESAT Contract**

**E21F007**

Description:	BFB Stock @ 2000 ug/mL	Expires:	Jun-17-22
Standard Type:	Other Solution	Prepared:	Jun-17-21
Solvent:	MeOH	Prepared By:	Matt Kobus
Final Volume (mls):	1	Department:	MS
Vials:	1	Last Edit:	Jun-24-21 12:07 by MAK

AccuStandard M-624-SS-03-10X. Prep date is date opened. rcd crl#18G1106

Analyte	CAS Number	Concentration (ppm)
4-Bromofluorobenzene	460-00-4	2000



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8/6/2021

**Analytical Standard Record**

**ICF- ESAT Contract**

**E21F008**

Description:	1,4-Dioxane ICV Stock @ 100 ug/mL	Expires:	Jun-17-22
Standard Type:	Other Solution	Prepared:	Jun-17-21
Solvent:	MeOH	Prepared By:	Matt Kobus
Final Volume (mls):	1	Department:	MS
Vials:	1	Last Edit:	Jun-24-21 12:08 by MAK

AccuStandard ALR-062S. Prep date is date opened. asb#20H0303

Analyte	CAS Number	Concentration (ppm)
1,4-Dioxane	123-91-1	100



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**Analytical Standard Record**

**ICF- ESAT Contract**

**E21F009**

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Description:	1,4-Dioxane Stock @ 2000 ug/mL	Expires:	Jun-17-22
Standard Type:	Analyte Spike	Prepared:	Jun-17-21
Solvent:	P&T MeOH	Prepared By:	Matt Kobus
Final Volume (mls):	1	Department:	MS
Vials:	1	Last Edit:	Jun-24-21 12:09 by MAK

Restek 30287. Prep date is date opened.

---

Analyte	CAS Number	Concentration (ppm)
1,4-Dioxane	123-91-1	2000

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8/6/2021

**Analytical Standard Record**

**ICF- ESAT Contract**

**E21F010**

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Description:	THF-d8 Stock @ 2000 ug/mL	Expires:	Jun-17-22
Standard Type:	Other Solution	Prepared:	Jun-17-21
Solvent:	P&T MeOH	Prepared By:	Matt Kobus
Final Volume (mls):	1	Department:	MS
Vials:	1	Last Edit:	Jun-24-21 12:09 by MAK

Restek 30112. Prep date is date opened.

---

Analyte	CAS Number	Concentration (ppm)
Tetrahydrofuran-d8	1693-74-9	2000

---



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**Analytical Standard Record**

**ICF- ESAT Contract**

**E21F011**

---

Description:	1,4-Dioxane-d8 Stock @ 2000 ug/mL	Expires:	Jun-17-22
Standard Type:	Analyte Spike	Prepared:	Jun-17-21
Solvent:	P&T MeOH	Prepared By:	Matt Kobus
Final Volume (mls):	1	Department:	MS
Vials:	1	Last Edit:	Jun-24-21 12:09 by MAK

Restek 30614. Prep date is date opened.

---

Analyte	CAS Number	Concentration (ppm)
1,4-Dioxane-d8	17647-74-4	2000

---



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**Analytical Standard Record**

**ICF- ESAT Contract**

**E21F012**

Description:	BFB Tune @ 1 ug/mL	Expires:	Jun-17-22
Standard Type:	Other Solution	Prepared:	Jun-17-21
Solvent:	DCM/DV495	Prepared By:	Matt Kobus
Final Volume (mls):	5	Department:	MS
Vials:	1	Last Edit:	Jun-24-21 12:10 by MAK

2.5 uL E21F007 was added to a 5 mL vol flask with DCM

Analyte	CAS Number	Concentration (ppm)
4-Bromofluorobenzene	460-00-4	1

**Parent Standards used in this standard:**

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
E21F007	BFB Stock @ 2000 ug/mL	Jun-17-21	Matt Kobus	Jun-17-22	Jun-24-21 12:07 by MAK	0.0025



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8/6/2021

### Analytical Standard Record

#### ICF- ESAT Contract

**E21F013**

Description:	1,4-Dioxane Int ICV @ 1 ug/mL	Expires:	Jun-17-22
Standard Type:	Other Solution	Prepared:	Jun-17-21
Solvent:	DCM/DV495-US	Prepared By:	Matt Kobus
Final Volume (mls):	1	Department:	MS
Vials:	1	Last Edit:	Jun-24-21 12:08 by MAK

10 uL E21F008 was combined with 990 uL DCM

Analyte	CAS Number	Concentration (ppm)
1,4-Dioxane	123-91-1	1

#### Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
E21F008	1,4-Dioxane ICV Stock @ 100 ug/mL	Jun-17-21	Matt Kobus	Jun-17-22	Jun-24-21 12:08 by MAK	0.01



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### Analytical Standard Record

#### ICF- ESAT Contract

**E21F014**

Description:	1,4-Dioxane ICV @ 25 ug/L	Expires:	Jun-17-22
Standard Type:	Analyte Spike	Prepared:	Jun-17-21
Solvent:	DCM/DV495	Prepared By:	Matt Kobus
Final Volume (mls):	1	Department:	MS
Vials:	1	Last Edit:	Jun-24-21 12:08 by MAK

25 uL E21F013 was added to 975 uL DCM (+2.5 uL IS E21F015. Syringe I-1129)

Analyte	CAS Number	Concentration (ppm)
1,4-Dioxane	123-91-1	0.025

#### Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
E21F013	1,4-Dioxane Int ICV @ 1 ug/mL	Jun-17-21	Matt Kobus	Jun-17-22	Jun-24-21 12:08 by MAK	0.025



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### Analytical Standard Record

#### ICF- ESAT Contract

**E21F015**

Description:	THF-d8 IS SPK @ 20 ug/mL	Expires:	Jun-17-22
Standard Type:	Other Solution	Prepared:	Jun-17-21
Solvent:	P&T MeOH	Prepared By:	Matt Kobus
Final Volume (mls):	10	Department:	MS
Vials:	1	Last Edit:	Jun-24-21 12:09 by MAK

100 uL E21F010 was added to a 10 mL vol flask and filled to mark with P&T MeOH

Analyte	CAS Number	Concentration (ppm)
Tetrahydrofuran-d8	1693-74-9	20

#### Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
E21F010	THF-d8 Stock @ 2000 ug/mL	Jun-17-21	Matt Kobus	Jun-17-22	Jun-24-21 12:09 by MAK	0.1



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### Analytical Standard Record

#### ICF- ESAT Contract

**E21F016**

Description:	1,4-Dioxane-d8 Surr SPK @ 20 ug/mL	Expires:	Jun-17-22
Standard Type:	Surrogate Spike	Prepared:	Jun-17-21
Solvent:	P&T MeOH	Prepared By:	Matt Kobus
Final Volume (mls):	10	Department:	MS
Vials:	1	Last Edit:	Jun-24-21 12:09 by MAK

100 uL E21F011 was added to a 10 mL vol flask and filled to mark with P&T MeOH

Analyte	CAS Number	Concentration (ppm)
1,4-Dioxane-d8	17647-74-4	20

#### Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
E21F011	1,4-Dioxane-d8 Stock @ 2000 ug/mL	Jun-17-21	Matt Kobus	Jun-17-22	Jun-24-21 12:09 by MAK	0.1



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### Analytical Standard Record

#### ICF- ESAT Contract

**E21F017**

Description:	1,4-Dioxane Int Cal @ 1 ug/mL	Expires:	Jun-17-22
Standard Type:	Analyte Spike	Prepared:	Jun-17-21
Solvent:	DCM	Prepared By:	Matt Kobus
Final Volume (mls):	10	Department:	MS
Vials:	1	Last Edit:	Jun-24-21 12:09 by MAK

5 uL E21F009 and 5 uL E21F011 were added to a 10 mL vol flask and filled to mark with DCM

Analyte	CAS Number	Concentration (ppm)
1,4-Dioxane-d8	17647-74-4	1
1,4-Dioxane	123-91-1	1

Parent Standards used in this standard:						
Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
E21F009	1,4-Dioxane Stock @ 2000 ug/mL	Jun-17-21	Matt Kobus	Jun-17-22	Jun-24-21 12:09 by MAK	0.005
E21F011	1,4-Dioxane-d8 Stock @ 2000 ug/mL	Jun-17-21	Matt Kobus	Jun-17-22	Jun-24-21 12:09 by MAK	0.005



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### Analytical Standard Record

#### ICF- ESAT Contract

**E21F018**

Description:	1,4-Dioxane ICAL L1 5 ug/L	Expires:	Dec-17-21
Standard Type:	Other Solution	Prepared:	Jun-17-21
Solvent:	DCM	Prepared By:	Matt Kobus
Final Volume (mls):	1	Department:	MS
Vials:	1	Last Edit:	Jun-24-21 12:09 by MAK

5 uL E2F017 was added to 995 uL DCM. (+2.5 uL IS E21F015)

Analyte	CAS Number	Concentration (ppm)
1,4-Dioxane-d8	17647-74-4	0.005
1,4-Dioxane	123-91-1	0.005

#### Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
E21F017	1,4-Dioxane Int Cal @ 1 ug/mL	Jun-17-21	Matt Kobus	Jun-17-22	Jun-24-21 12:09 by MAK	0.005



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### Analytical Standard Record

#### ICF- ESAT Contract

**E21F019**

Description:	1,4-Dioxane ICAL L2 10 ug/L	Expires:	Dec-17-21
Standard Type:	Other Solution	Prepared:	Jun-18-21
Solvent:	DCM	Prepared By:	Matt Kobus
Final Volume (mls):	1	Department:	MS
Vials:	1	Last Edit:	Jun-24-21 12:09 by MAK

10 uL E2F017 was added to 990 uL DCM. (+2.5 uL IS E21F015)

Analyte	CAS Number	Concentration (ppm)
1,4-Dioxane-d8	17647-74-4	0.01
1,4-Dioxane	123-91-1	0.01

#### Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
E21F017	1,4-Dioxane Int Cal @ 1 ug/mL	Jun-17-21	Matt Kobus	Jun-17-22	Jun-24-21 12:09 by MAK	0.01



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### Analytical Standard Record

#### ICF- ESAT Contract

**E21F020**

Description:	1,4-Dioxane ICAL L3 15 ug/L	Expires:	Dec-17-21
Standard Type:	Other Solution	Prepared:	Jun-17-21
Solvent:	DCM	Prepared By:	Matt Kobus
Final Volume (mls):	1	Department:	MS
Vials:	1	Last Edit:	Jun-24-21 12:09 by MAK

15 uL E2F017 was added to 985 uL DCM. (+2.5 uL IS E21F015)

Analyte	CAS Number	Concentration (ppm)
1,4-Dioxane-d8	17647-74-4	0.015
1,4-Dioxane	123-91-1	0.015

#### Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
E21F017	1,4-Dioxane Int Cal @ 1 ug/mL	Jun-17-21	Matt Kobus	Jun-17-22	Jun-24-21 12:09 by MAK	0.015



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### Analytical Standard Record

#### ICF- ESAT Contract

**E21F021**

Description:	1,4-Dioxane ICAL L4 20ug/L	Expires:	Dec-17-21
Standard Type:	Other Solution	Prepared:	Jun-17-21
Solvent:	DCM	Prepared By:	Matt Kobus
Final Volume (mls):	1	Department:	MS
Vials:	1	Last Edit:	Jun-24-21 12:09 by MAK

20 uL E2F017 was added to 980 uL DCM. (+2.5 uL IS E21F015)

Analyte	CAS Number	Concentration (ppm)
1,4-Dioxane-d8	17647-74-4	0.02
1,4-Dioxane	123-91-1	0.02

#### Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
E21F017	1,4-Dioxane Int Cal @ 1 ug/mL	Jun-17-21	Matt Kobus	Jun-17-22	Jun-24-21 12:09 by MAK	0.02



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### Analytical Standard Record

#### ICF- ESAT Contract

**E21F022**

Description:	1,4-Dioxane ICAL L5 25ug/L	Expires:	Dec-17-21
Standard Type:	Other Solution	Prepared:	Jun-17-21
Solvent:	DCM	Prepared By:	Matt Kobus
Final Volume (mls):	1	Department:	MS
Vials:	1	Last Edit:	Jun-24-21 12:09 by MAK

25 uL E2F017 was added to 975 uL DCM. (+2.5 uL IS E21F015)

Analyte	CAS Number	Concentration (ppm)
1,4-Dioxane-d8	17647-74-4	0.025
1,4-Dioxane	123-91-1	0.025

#### Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
E21F017	1,4-Dioxane Int Cal @ 1 ug/mL	Jun-17-21	Matt Kobus	Jun-17-22	Jun-24-21 12:09 by MAK	0.025



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### Analytical Standard Record

#### ICF- ESAT Contract

**E21F023**

Description:	1,4-Dioxane ICAL L6 50ug/L	Expires:	Dec-17-21
Standard Type:	Other Solution	Prepared:	Jun-18-21
Solvent:	DCM	Prepared By:	Matt Kobus
Final Volume (mls):	1	Department:	MS
Vials:	1	Last Edit:	Jun-24-21 12:09 by MAK

50 uL E2F017 was added to 950 uL DCM. (+2.5 uL IS E21F015)

Analyte	CAS Number	Concentration (ppm)
1,4-Dioxane-d8	17647-74-4	0.05
1,4-Dioxane	123-91-1	0.05

#### Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
E21F017	1,4-Dioxane Int Cal @ 1 ug/mL	Jun-17-21	Matt Kobus	Jun-17-22	Jun-24-21 12:09 by MAK	0.05



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### Analytical Standard Record

#### ICF- ESAT Contract

**E21F024**

Description:	1,4-Dioxane ICAL L7 100ug/L	Expires:	Dec-17-21
Standard Type:	Other Solution	Prepared:	Jun-18-21
Solvent:	DCM	Prepared By:	Matt Kobus
Final Volume (mls):	1	Department:	MS
Vials:	1	Last Edit:	Jun-24-21 12:09 by MAK

100 uL E2F017 was added to 900 uL DCM. (+2.5 uL IS E21F015)

Analyte	CAS Number	Concentration (ppm)
1,4-Dioxane-d8	17647-74-4	0.1
1,4-Dioxane	123-91-1	0.1

#### Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
E21F017	1,4-Dioxane Int Cal @ 1 ug/mL	Jun-17-21	Matt Kobus	Jun-17-22	Jun-24-21 12:09 by MAK	0.1



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### Analytical Standard Record

#### ICF- ESAT Contract

**E21F025**

Description:	1,4-Dioxane ICAL L8 250ug/L	Expires:	Dec-17-21
Standard Type:	Other Solution	Prepared:	Jun-17-21
Solvent:	DCM	Prepared By:	Matt Kobus
Final Volume (mls):	1	Department:	MS
Vials:	1	Last Edit:	Jun-24-21 12:09 by MAK

250 uL E2F017 was added to 750 uL DCM. (+2.5 uL IS E21F015)

Analyte	CAS Number	Concentration (ppm)
1,4-Dioxane-d8	17647-74-4	0.25
1,4-Dioxane	123-91-1	0.25

#### Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
E21F017	1,4-Dioxane Int Cal @ 1 ug/mL	Jun-17-21	Matt Kobus	Jun-17-22	Jun-24-21 12:09 by MAK	0.25



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### Analytical Standard Record

#### ICF- ESAT Contract

**E21F026**

Description:	1,4-Dioxane ICAL L9 500ug/L	Expires:	Dec-17-21
Standard Type:	Other Solution	Prepared:	Jun-18-21
Solvent:	DCM	Prepared By:	Matt Kobus
Final Volume (mls):	1	Department:	MS
Vials:	1	Last Edit:	Jun-24-21 12:09 by MAK

500 uL E2F017 was added to 500 uL DCM. (+2.5 uL IS E21F015)

Analyte	CAS Number	Concentration (ppm)
1,4-Dioxane-d8	17647-74-4	0.25
1,4-Dioxane	123-91-1	0.25

#### Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
E21F017	1,4-Dioxane Int Cal @ 1 ug/mL	Jun-17-21	Matt Kobus	Jun-17-22	Jun-24-21 12:09 by MAK	0.25



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### Analytical Standard Record

#### ICF- ESAT Contract

**E21F027**

Description:	1,4-Dioxane ICAL L10 1000ug/L	Expires:	Dec-17-21
Standard Type:	Other Solution	Prepared:	Jun-18-21
Solvent:	DCM	Prepared By:	Matt Kobus
Final Volume (mls):	1	Department:	MS
Vials:	1	Last Edit:	Jun-24-21 12:09 by MAK

1000 uL E2F017 was added to 0 uL DCM. (+2.5 uL IS E21F015)

Analyte	CAS Number	Concentration (ppm)
1,4-Dioxane-d8	17647-74-4	1
1,4-Dioxane	123-91-1	1

#### Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
E21F017	1,4-Dioxane Int Cal @ 1 ug/mL	Jun-17-21	Matt Kobus	Jun-17-22	Jun-24-21 12:09 by MAK	1



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### Analytical Standard Record

#### ICF- ESAT Contract

**E21F031**

Description:	1,4-Dioxane ICAL L1 5 ug/L	Expires:	Jun-23-22
Standard Type:	Other Solution	Prepared:	Jun-23-21
Solvent:	DCM	Prepared By:	Matt Kobus
Final Volume (mls):	1	Department:	MS
Vials:	1	Last Edit:	Jun-24-21 12:14 by MAK

5 uL E2F017 was added to 995 uL DCM. (+2.5 uL IS E21F015)

Analyte	CAS Number	Concentration (ppm)
1,4-Dioxane-d8	17647-74-4	0.005
1,4-Dioxane	123-91-1	0.005

#### Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
E21F017	1,4-Dioxane Int Cal @ 1 ug/mL	Jun-17-21	Matt Kobus	Jun-17-22	Jun-24-21 12:09 by MAK	0.005



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### Analytical Standard Record

#### ICF- ESAT Contract

**E21F032**

Description:	1,4-Dioxane ICAL L2 10 ug/L	Expires:	Jun-23-22
Standard Type:	Other Solution	Prepared:	Jun-23-21
Solvent:	DCM	Prepared By:	Matt Kobus
Final Volume (mls):	1	Department:	MS
Vials:	1	Last Edit:	Jun-24-21 12:14 by MAK

10 uL E2F017 was added to 990 uL DCM. (+2.5 uL IS E21F015)

Analyte	CAS Number	Concentration (ppm)
1,4-Dioxane-d8	17647-74-4	0.01
1,4-Dioxane	123-91-1	0.01

#### Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
E21F017	1,4-Dioxane Int Cal @ 1 ug/mL	Jun-17-21	Matt Kobus	Jun-17-22	Jun-24-21 12:09 by MAK	0.01



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### Analytical Standard Record

#### ICF- ESAT Contract

**E21F033**

Description:	1,4-Dioxane ICAL L3 15 ug/L	Expires:	Jun-23-22
Standard Type:	Other Solution	Prepared:	Jun-23-21
Solvent:	DCM	Prepared By:	Matt Kobus
Final Volume (mls):	1	Department:	MS
Vials:	1	Last Edit:	Jun-24-21 12:13 by MAK

15 uL E2F017 was added to 985 uL DCM. (+2.5 uL IS E21F015)

Analyte	CAS Number	Concentration (ppm)
1,4-Dioxane-d8	17647-74-4	0.015
1,4-Dioxane	123-91-1	0.015

#### Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
E21F017	1,4-Dioxane Int Cal @ 1 ug/mL	Jun-17-21	Matt Kobus	Jun-17-22	Jun-24-21 12:09 by MAK	0.015



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### Analytical Standard Record

#### ICF- ESAT Contract

**E21F034**

Description:	1,4-Dioxane ICAL L4 20ug/L	Expires:	Jun-24-22
Standard Type:	Other Solution	Prepared:	Jun-23-21
Solvent:	DCM	Prepared By:	Matt Kobus
Final Volume (mls):	1	Department:	MS
Vials:	1	Last Edit:	Jun-24-21 12:14 by MAK

20 uL E2F017 was added to 980 uL DCM. (+2.5 uL IS E21F015)

Analyte	CAS Number	Concentration (ppm)
1,4-Dioxane-d8	17647-74-4	0.02
1,4-Dioxane	123-91-1	0.02

#### Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
E21F017	1,4-Dioxane Int Cal @ 1 ug/mL	Jun-17-21	Matt Kobus	Jun-17-22	Jun-24-21 12:09 by MAK	0.02



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### Analytical Standard Record

#### ICF- ESAT Contract

**E21F035**

Description:	1,4-Dioxane ICAL L5 25ug/L	Expires:	Jun-23-22
Standard Type:	Other Solution	Prepared:	Jun-23-21
Solvent:	DCM	Prepared By:	Matt Kobus
Final Volume (mls):	1	Department:	MS
Vials:	1	Last Edit:	Jun-24-21 12:15 by MAK

25 uL E2F017 was added to 975 uL DCM. (+2.5 uL IS E21F015)

Analyte	CAS Number	Concentration (ppm)
1,4-Dioxane-d8	17647-74-4	0.025
1,4-Dioxane	123-91-1	0.025

#### Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
E21F017	1,4-Dioxane Int Cal @ 1 ug/mL	Jun-17-21	Matt Kobus	Jun-17-22	Jun-24-21 12:09 by MAK	0.025



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### Analytical Standard Record

#### ICF- ESAT Contract

**E21F036**

Description:	1,4-Dioxane ICAL L6 50ug/L	Expires:	Jun-23-22
Standard Type:	Other Solution	Prepared:	Jun-23-21
Solvent:	DCM	Prepared By:	Matt Kobus
Final Volume (mls):	1	Department:	MS
Vials:	1	Last Edit:	Jun-24-21 12:16 by MAK

50 uL E2F017 was added to 950 uL DCM. (+2.5 uL IS E21F015)

Analyte	CAS Number	Concentration (ppm)
1,4-Dioxane-d8	17647-74-4	0.05
1,4-Dioxane	123-91-1	0.05

#### Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
E21F017	1,4-Dioxane Int Cal @ 1 ug/mL	Jun-17-21	Matt Kobus	Jun-17-22	Jun-24-21 12:09 by MAK	0.05



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### Analytical Standard Record

#### ICF- ESAT Contract

**E21F037**

Description:	1,4-Dioxane ICAL L7 100ug/L	Expires:	Jun-23-22
Standard Type:	Other Solution	Prepared:	Jun-23-21
Solvent:	DCM	Prepared By:	Matt Kobus
Final Volume (mls):	1	Department:	MS
Vials:	1	Last Edit:	Jun-24-21 12:17 by MAK

100 uL E2F017 was added to 900 uL DCM. (+2.5 uL IS E21F015)

Analyte	CAS Number	Concentration (ppm)
1,4-Dioxane-d8	17647-74-4	0.1
1,4-Dioxane	123-91-1	0.1

#### Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
E21F017	1,4-Dioxane Int Cal @ 1 ug/mL	Jun-17-21	Matt Kobus	Jun-17-22	Jun-24-21 12:09 by MAK	0.1



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### Analytical Standard Record

#### ICF- ESAT Contract

**E21F038**

Description:	1,4-Dioxane ICAL L8 250ug/L	Expires:	Jun-23-22
Standard Type:	Other Solution	Prepared:	Jun-23-21
Solvent:	DCM	Prepared By:	Matt Kobus
Final Volume (mls):	1	Department:	MS
Vials:	1	Last Edit:	Jun-24-21 12:18 by MAK

250 uL E2F017 was added to 750 uL DCM. (+2.5 uL IS E21F015)

Analyte	CAS Number	Concentration (ppm)
1,4-Dioxane-d8	17647-74-4	0.25
1,4-Dioxane	123-91-1	0.25

#### Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
E21F017	1,4-Dioxane Int Cal @ 1 ug/mL	Jun-17-21	Matt Kobus	Jun-17-22	Jun-24-21 12:09 by MAK	0.25



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### Analytical Standard Record

#### ICF- ESAT Contract

**E21F039**

Description:	1,4-Dioxane ICAL L9 500ug/L	Expires:	Jun-23-22
Standard Type:	Other Solution	Prepared:	Jun-23-21
Solvent:	DCM	Prepared By:	Matt Kobus
Final Volume (mls):	1	Department:	MS
Vials:	1	Last Edit:	Jun-24-21 12:18 by MAK

500 uL E2F017 was added to 500 uL DCM. (+2.5 uL IS E21F015)

Analyte	CAS Number	Concentration (ppm)
1,4-Dioxane-d8	17647-74-4	0.25
1,4-Dioxane	123-91-1	0.25

#### Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
E21F017	1,4-Dioxane Int Cal @ 1 ug/mL	Jun-17-21	Matt Kobus	Jun-17-22	Jun-24-21 12:09 by MAK	0.25



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### Analytical Standard Record

#### ICF- ESAT Contract

**E21F040**

Description:	1,4-Dioxane ICAL L10 1000ug/L	Expires:	Jun-23-22
Standard Type:	Other Solution	Prepared:	Jun-24-21
Solvent:	DCM	Prepared By:	Matt Kobus
Final Volume (mls):	1	Department:	MS
Vials:	1	Last Edit:	Jun-24-21 12:19 by MAK

1000 uL E2F017 was added to 0 uL DCM. (+2.5 uL IS E21F015)

Analyte	CAS Number	Concentration (ppm)
1,4-Dioxane-d8	17647-74-4	1
1,4-Dioxane	123-91-1	1

#### Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
E21F017	1,4-Dioxane Int Cal @ 1 ug/mL	Jun-17-21	Matt Kobus	Jun-17-22	Jun-24-21 12:09 by MAK	1



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### Analytical Standard Record

#### ICF- ESAT Contract

**E21G001**

Description:	1,4-Dioxane SPK @ 1 ug/mL	Expires:	Jun-23-22
Standard Type:	Analyte Spike	Prepared:	Jun-28-21
Solvent:	P&T MeOH	Prepared By:	Matt Kobus
Final Volume (mls):	10	Department:	MS
Vials:	1	Last Edit:	Jul-01-21 11:06 by MAK

5 uL 2000ug/mL was added to 10 mL vol flask.

Analyte	CAS Number	Concentration (ppm)
1,4-Dioxane	123-91-1	1

#### Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
E21F009	1,4-Dioxane Stock @ 2000 ug/mL	Jun-17-21	Matt Kobus	Jun-17-22	Jun-24-21 12:09 by MAK	0.005



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**Analytical Standard Record**

**ICF- ESAT Contract**

**E21G002**

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Description:	1,4-Dioxane SPK @ 1 ug/mL	Expires:	Jan-02-22
Standard Type:	Analyte Spike	Prepared:	Jul-06-21
Solvent:	P&T MeOH	Prepared By:	Matt Kobus
Final Volume (mls):	10	Department:	MS
Vials:	1	Last Edit:	Jul-06-21 18:46 by MAK

5 uL 2000ug/mL was added to 10 mL vol flask.

Analyte	CAS Number	Concentration (ppm)
1,4-Dioxane	123-91-1	1

**Parent Standards used in this standard:**

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
E21F009	1,4-Dioxane Stock @ 2000 ug/mL	Jun-17-21	Matt Kobus	Jun-17-22	Jun-24-21 12:09 by MAK	0.005



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### Analytical Standard Record

#### ICF- ESAT Contract

**E21G003**

Description:	1,4-Dioxane-d8 Surr SPK @ 20 ug/mL	Expires:	Jan-02-22
Standard Type:	Surrogate Spike	Prepared:	Jul-06-21
Solvent:	P&T MeOH	Prepared By:	Matt Kobus
Final Volume (mls):	10	Department:	MS
Vials:	1	Last Edit:	Jul-06-21 18:46 by MAK

100 uL E21F011 was added to a 10 mL vol flask and filled to mark with P&T MeOH

Analyte	CAS Number	Concentration (ppm)
1,4-Dioxane-d8	17647-74-4	20

#### Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
E21F011	1,4-Dioxane-d8 Stock @ 2000 ug/mL	Jun-17-21	Matt Kobus	Jun-17-22	Jun-24-21 12:09 by MAK	0.1

## QAPP Worksheet #15a: Groundwater Project Action Limits and Laboratory-Specific Detection/Quantitation Limits

Matrix	Groundwater			
Analytical Group	VOC			
Concentration Level	Trace			
Analyte <sup>3</sup>	CAS Number	Project Action Limit <sup>2</sup> µg/L	CLP Method <sup>1</sup> /ASB Method <sup>4</sup>	
			CRQLs/RL (low/medium) µg/L	CLP Method <sup>1</sup> / ASB Method <sup>4</sup>
Vinyl chloride	75-01-4	2	0.50	NA
1,1-Dichloroethene	75-35-4	7	0.50	NA
1,2-Dichloroethane	107-06-2	5	0.50	NA
Cis-1,2-dichloroethene	156-59-2	70	0.50	NA
Trans-1,2-dichloroethene	10061-01-5	100	0.50	NA
Carbon Tetrachloride	56-23-5	5	0.50	NA
Ethylbenzene	100-41-4	700	0.50	NA
1,1,1-Trichloroethane	71-55-6	200	0.50	NA
1,1,2-Trichloroethane	79-00-5	5	0.50	NA
Trichloroethene	79-01-6	5	0.50	NA
Tetrachloroethene	127-18-4	5	0.50	NA
Toluene	108-88-3	1,000	0.50	NA
o-Xylene	95-47-6	10,000 (total)	0.50	NA

Matrix	Groundwater			
Analytical Group	VOC			
Concentration Level	Trace			
Analyte <sup>3</sup>	CAS Number	Project Action Limit <sup>2</sup> µg/L	CLP Method <sup>1</sup> /ASB Method <sup>4</sup>	
			CRQLs/RL (low/medium) µg/L	
m,p-Xylene	179601-23-1	10,000 (total)	0.50	NA
1,4-dioxane <sup>4</sup>	123-91-1	7.7	0.204	0.154

**Notes: If samples are sent to the Analytical Services Branch laboratory see Worksheet #15a in Appendix B**

<sup>1</sup>CLP Method Analytical CRQLs are those documented in SOW SOM02.4. EPA headquarters and SMO maintain laboratory MDLs which are not available to include above.

<sup>2</sup>The Project Action Limit is set at the Remediation Goal established in the ROD. There are no groundwater Project Action Limits for inorganics therefore they are not included in WS #15a.

<sup>3</sup>All groundwater samples will be analyzed for the full CLP TCL organic list of parameters as per the SOW. This table lists only those organic parameters with a PAL.

<sup>4</sup>1,4-dioxane will be analyzed by Region 5 ASB laboratory using SOP MS035, Version 1. The PAL is the groundwater quality standard for class I potable groundwater listed in Illinois Administrative code (IAC) 35 620.410.

CAS – Chemical Abstract Service

MDL – method detection limit

CLP – Contract Laboratory Program

µg/L – microgram per liter

QAPP – Quality assurance project plan

CRQL – contract required quantitation limit

ASB – Analytical Services Branch

RL – Reporting Limit

## QAPP Worksheet #15b: Effluent Project Action Limits and Laboratory-Specific Detection/Quantitation Limits

Matrix	Treated Effluent		
Analytical Group	VOC/1,4-dioxane <sup>5</sup> /Inorganics <sup>3</sup>		
Concentration Level	Trace		
Analyte <sup>4</sup>	CAS Number	Project Action Limit <sup>2</sup> µg/L	CLP Method <sup>1</sup> /ASB Method <sup>5</sup>
			CRQLs (low/medium)/RL <sup>5</sup> µg/L
Vinyl chloride	75-01-4	120	0.50
1,1-Dichloroethene	75-35-4	1	0.50
1,1-Dichloroethane	75-34-3	2,000	0.50
Cis-1,2-dichloroethene	156-59-2	1,100	0.50
Trans-1,2-dichloroethene	10061-01-5	34,000	0.50
Carbon Tetrachloride	56-23-5	280	0.50
1,1,1-Trichloroethane	71-55-6	390	0.50
1,1,2-Trichloroethane	79-00-5	12	0.50
Trichloroethene	79-01-6	25	0.50
Tetrachloroethene	127-18-4	150	0.50
Chloroethane	75-00-3	1,000	0.50
Benzene	71-43-2	310	0.50
Ethylbenzene	100-41-4	14	0.50
Toluene	108-88-3	230	0.50
o-Xylene	95-47-6	360 (total) <sup>4</sup>	0.50
m,p-Xylene	179601-23-1	360 (total) <sup>4</sup>	0.50

Matrix	Treated Effluent		
Analytical Group	VOC/1,4-dioxane <sup>5</sup> /Inorganics <sup>3</sup>		
Concentration Level	Trace		
Analyte <sup>4</sup>	CAS Number	Project Action Limit <sup>2</sup> µg/L	CLP Method <sup>1</sup> /ASB Method <sup>5</sup>
			CRQLs (low/medium)/RL <sup>5</sup> µg/L
1,4-Dioxane <sup>5</sup>	123-91-1	36,000	0.205
Iron	7439-89-6	1,000	100
			NA

**Notes: If samples are sent to the Analytical Services Branch laboratory see Worksheet #15b in Appendix B**

<sup>1</sup>CLP Method Analytical CRQLs are those documented in CLP SOWs SOM02.4 and ISM02.4. EPA headquarters and SMO maintain laboratory MDLs which are not available to include above.

<sup>2</sup>The Project Action Limit is set at the Discharge Limits provided in the ROD, Illinois EPA-Derived Water Quality Criteria, April 04, 2013 or the standards provided in 35 IAC 302.208. The PAL for system efficiency/mass removal rate is 99% calculated by influent minus effluent divided by influent and discussed on WS # 11, Step 7.

<sup>3</sup>All influent and effluent samples will be analyzed for the full CLP TCL volatile organic list and full TAL inorganic list of parameters as per the SOWs. This table lists only those organic and inorganic parameters with a PAL.

<sup>4</sup>The effluent discharge limit for total xylenes is 360 µg/L.

<sup>5</sup>1,4-dioxane will be analyzed by Region 5 ASB laboratory using SOP MS035, Version 1.

CAS – Chemical Abstract Service

MDL – method detection limit

CLP – Contract Laboratory Program

µg/L – microgram per liter

QAPP – Quality assurance project plan

CRQL – contract required quantitation limit

ASB – Analytical Services Branch

RL – Reporting Limit

Data Path : J:\Southeast Rockford Groundwater\4. MS\E210602 and E210603 14diox\Templates\GCMS16\Data\210624.mak\  
Data File : GCMS\_210624002.D  
Acq On : 24 Jun 2021 09:00 am  
Operator :  
Sample : DCM  
Misc :  
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Aug 09 10:45:31 2021

Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624.mak.M

Quant Title : Initial Calibration of 1,4-Dioxane 021317

QLast Update : Thu Jun 24 15:10:43 2021

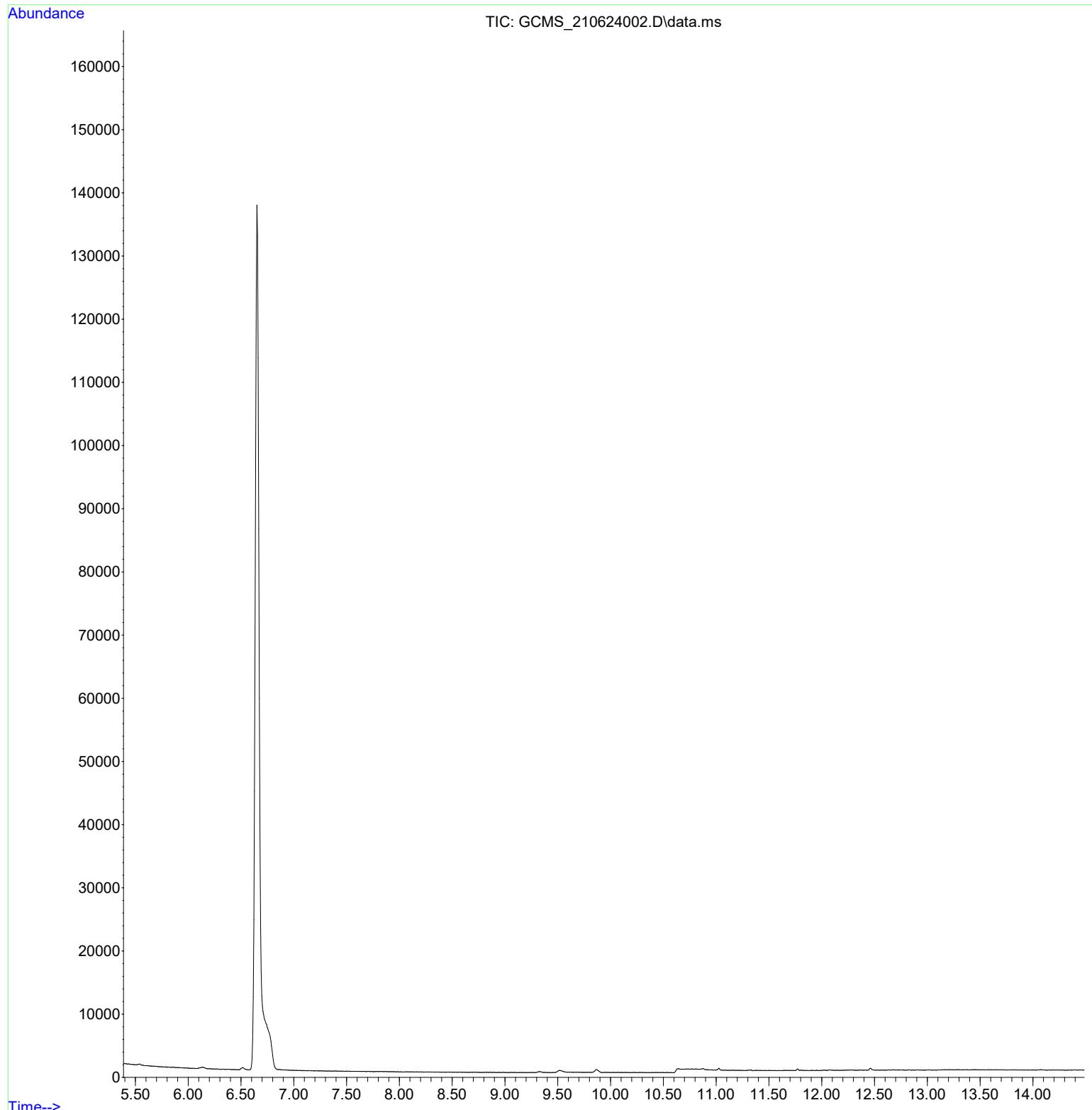
Response via : Initial Calibration

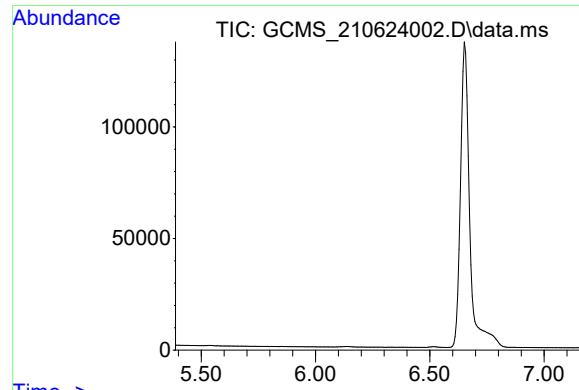
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	0.000	46	0	0.00	ug/L	-5.70
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	0.000	96	0	0.00	ug/L	
<hr/>						
Target Compounds					Qvalue	
3) 1,4-Dioxane	0.000		0	N.D.		
<hr/>						

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : J:\Southeast Rockford Groundwater\4. MS\E210602 and E210603 14diox\Templates\GCMS16\Data\210624.mak\  
Data File : GCMS\_210624002.D  
Acq On : 24 Jun 2021 09:00 am  
Operator :  
Sample : DCM  
Misc :  
ALS Vial : 1 Sample Multiplier: 1

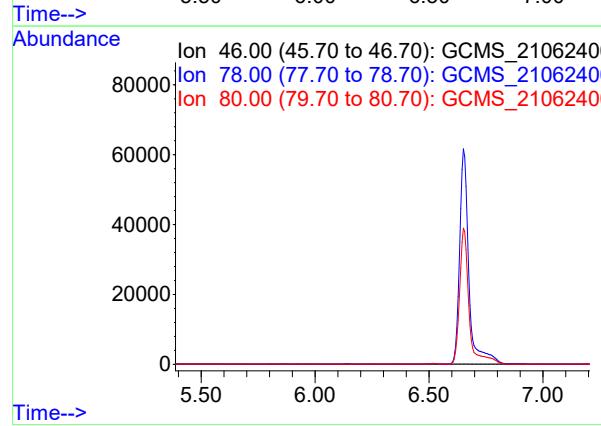
Quant Time: Aug 09 10:45:31 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624.mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration





#1  
TETRAHYDROFURAN-D8  
Concen: 0.00 ug/L  
Expected RT: 5.70 min  
  
Lab File: GCMS\_210624002.D  
Acq: 24 Jun 2021 09:00 am

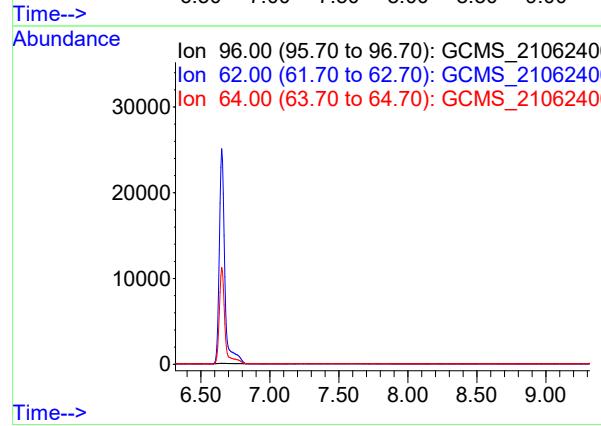
Tgt Ion: 46  
Sig Exp Ratio  
46 100  
78 39.3  
80 41.5

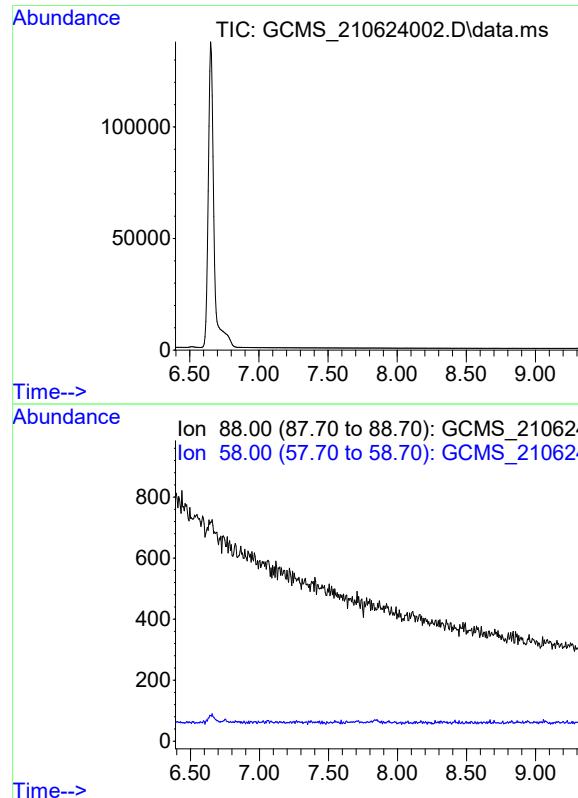


#2  
1,4-Dioxane-d8  
Concen: 0.00 ug/L  
Expected RT: 7.81 min

Lab File: GCMS\_210624002.D  
Acq: 24 Jun 2021 09:00 am

Tgt Ion: 96  
Sig Exp Ratio  
96 100  
62 0.0  
64 81.2





#3  
1,4-Dioxane  
Concen: N.D.  
Expected RT: 7.89 min

Lab File: GCMS\_210624002.D  
Acq: 24 Jun 2021 09:00 am

Tgt Ion: 88  
Sig Exp Ratio  
88 100  
58 103.6

Data Path : J:\Southeast Rockford Groundwater\4. MS\E210602 and E210603 14diox\Templates\GCMS16\Data\210624.mak\  
Data File : GCMS\_210624003.D  
Acq On : 24 Jun 2021 09:21 am  
Operator :  
Sample : DCM  
Misc :  
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 09 10:46:21 2021

Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624.mak.M

Quant Title : Initial Calibration of 1,4-Dioxane 021317

QLast Update : Thu Jun 24 15:10:43 2021

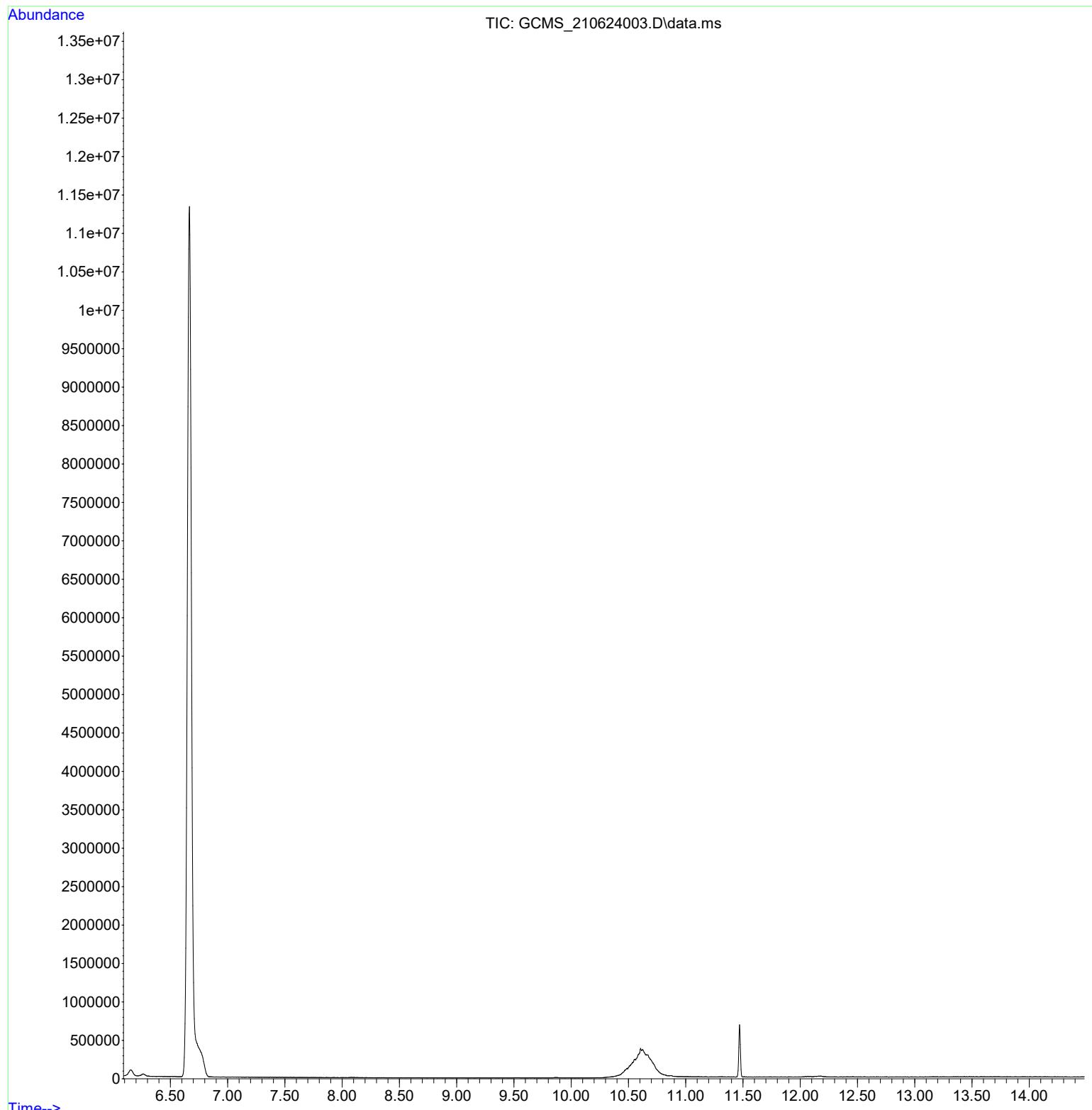
Response via : Initial Calibration

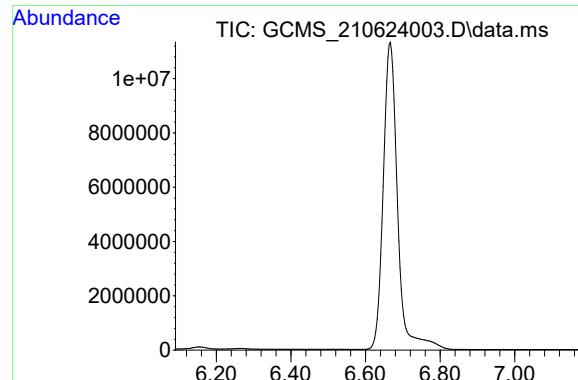
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	0.000	46	0	0.00	ug/L	-5.70
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	0.000	96	0	0.00	ug/L	
<hr/>						
Target Compounds					Qvalue	
3) 1,4-Dioxane	0.000		0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : J:\Southeast Rockford Groundwater\4. MS\E210602 and E210603 14diox\Templates\GCMS16\Data\210624.mak\  
Data File : GCMS\_210624003.D  
Acq On : 24 Jun 2021 09:21 am  
Operator :  
Sample : DCM  
Misc :  
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 09 10:46:21 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624.mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration

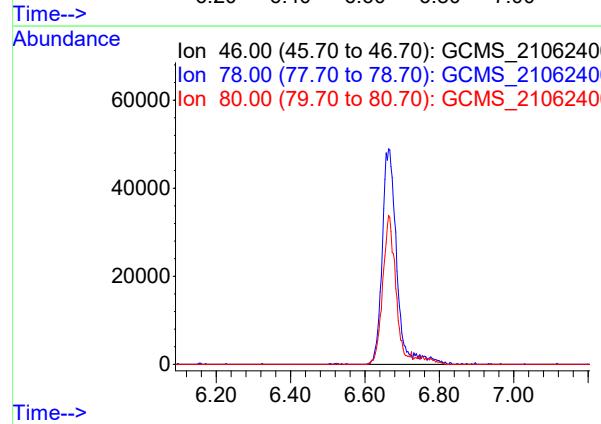




#1  
TETRAHYDROFURAN-D8  
Concen: 0.00 ug/L  
Expected RT: 5.70 min

Lab File: GCMS\_210624003.D  
Acq: 24 Jun 2021 09:21 am

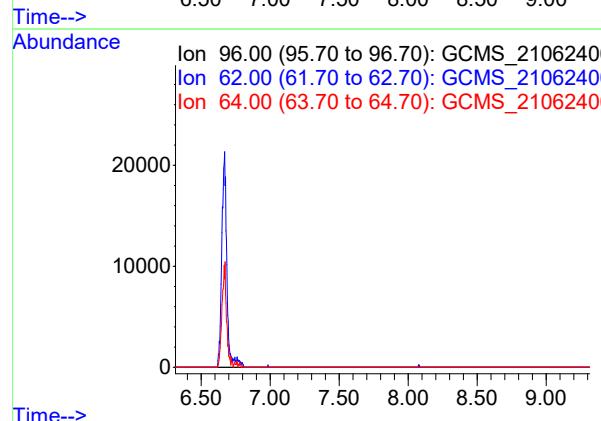
Tgt Ion: 46  
Sig Exp Ratio  
46 100  
78 39.3  
80 41.5

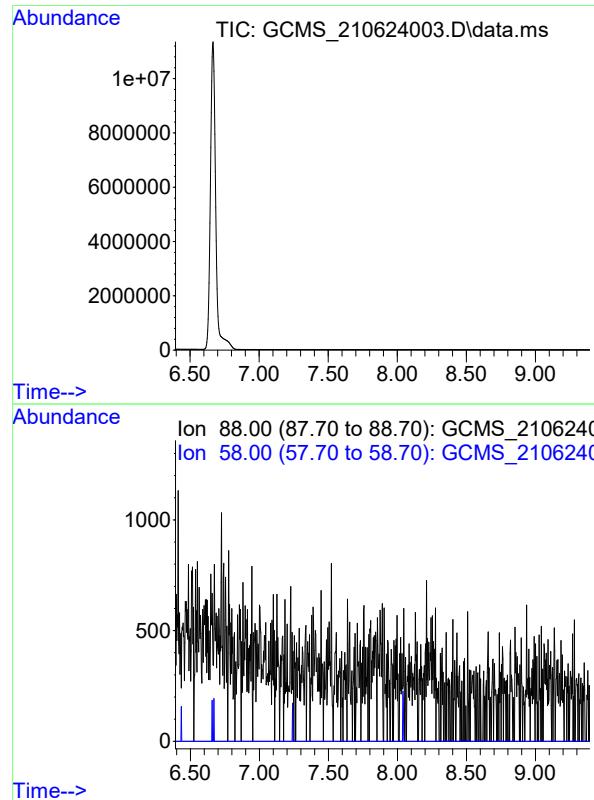


#2  
1,4-Dioxane-d8  
Concen: 0.00 ug/L  
Expected RT: 7.81 min

Lab File: GCMS\_210624003.D  
Acq: 24 Jun 2021 09:21 am

Tgt Ion: 96  
Sig Exp Ratio  
96 100  
62 0.0  
64 81.2





#3  
1,4-Dioxane  
Concen: N.D.  
Expected RT: 7.89 min  
  
Lab File: GCMS\_210624003.D  
Acq: 24 Jun 2021 09:21 am  
  
Tgt Ion: 88  
Sig Exp Ratio  
88 100  
58 103.6

Data Path : J:\Southeast Rockford Groundwater\4. MS\E210602 and E210603 14diox\Templates\GCMS16\Data\210630Amak\  
Data File : GCMS\_210630003.D  
Acq On : 30 Jun 2021 05:01 pm  
Operator :  
Sample : DCM  
Misc :  
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 01 11:36:12 2021

Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M

Quant Title : Initial Calibration of 1,4-Dioxane 021317

QLast Update : Thu Jun 24 15:10:43 2021

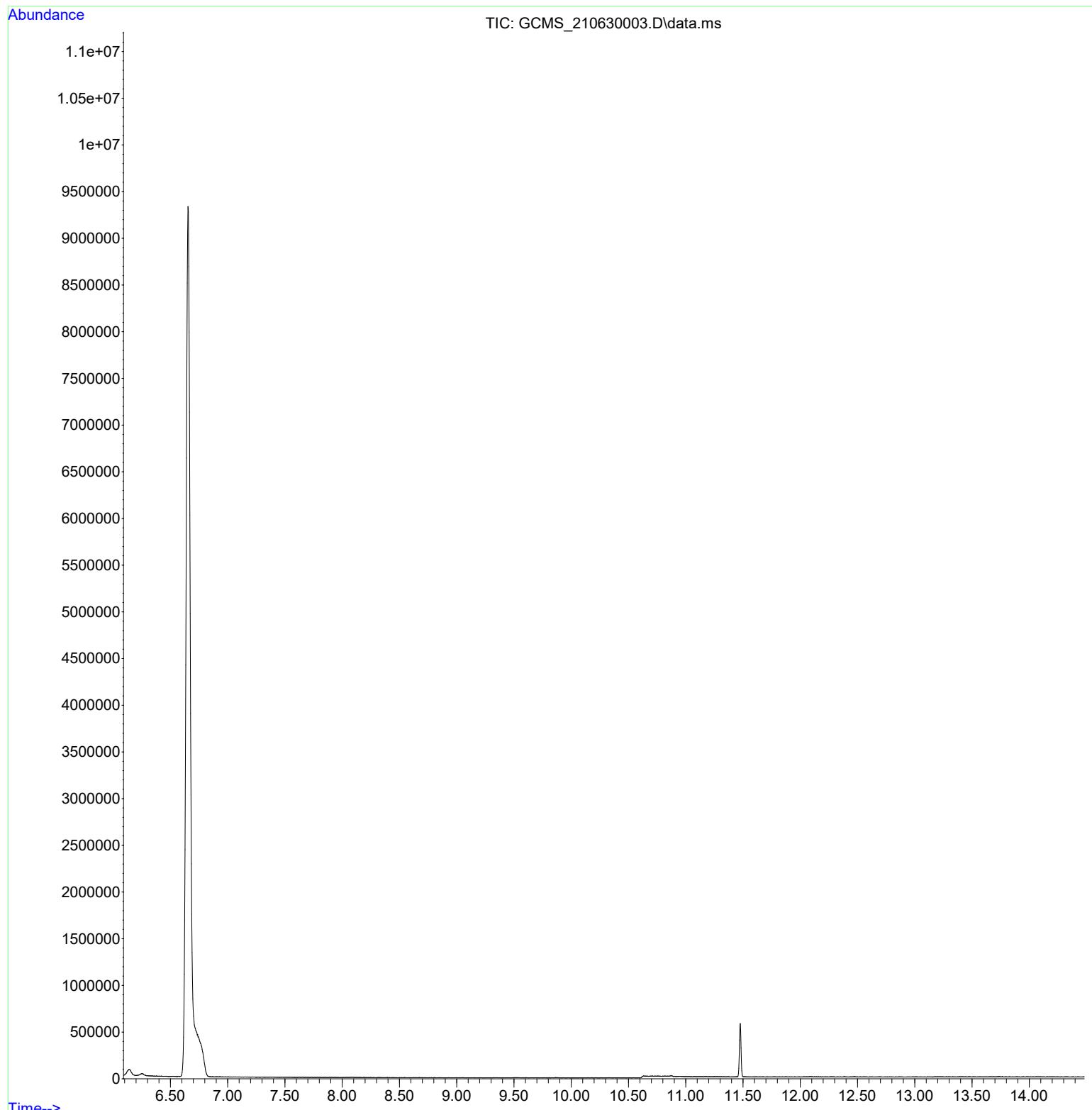
Response via : Initial Calibration

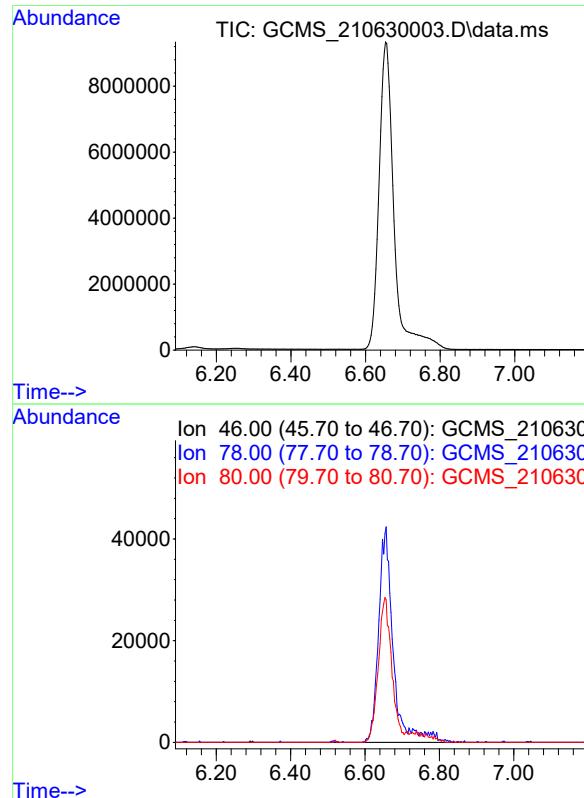
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	0.000	46	0	0.00	ug/L	-5.70
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	0.000	96	0	0.00	ug/L	
<hr/>						
Target Compounds					Qvalue	
3) 1,4-Dioxane	0.000		0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : J:\Southeast Rockford Groundwater\4. MS\E210602 and E210603 14diox\Templates\GCMS16\Data\210630Amak\  
Data File : GCMS\_210630003.D  
Acq On : 30 Jun 2021 05:01 pm  
Operator :  
Sample : DCM  
Misc :  
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 01 11:36:12 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration

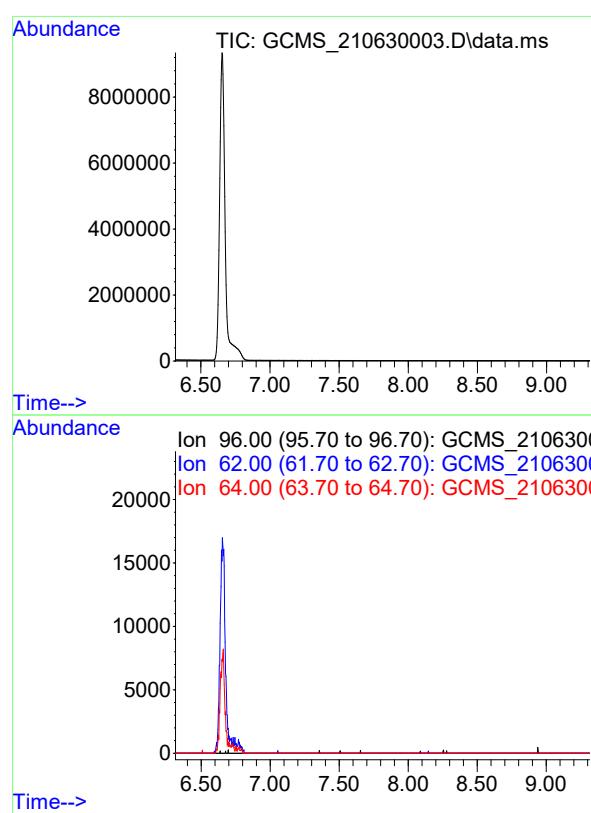




#1  
TETRAHYDROFURAN-D8  
Concen: 0.00 ug/L  
Expected RT: 5.70 min

Lab File: GCMS\_210630003.D  
Acq: 30 Jun 2021 05:01 pm

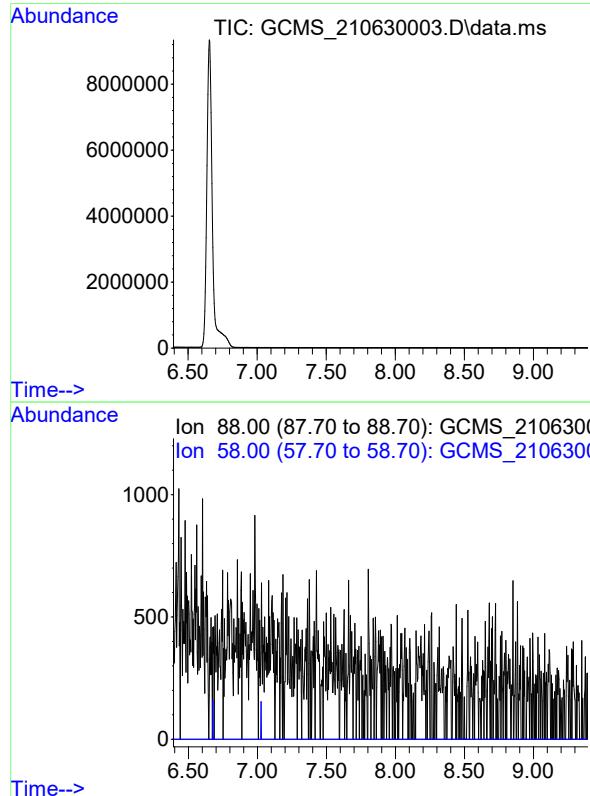
Tgt Ion: 46  
Sig Exp Ratio  
46 100  
78 39.3  
80 41.5



#2  
1,4-Dioxane-d8  
Concen: 0.00 ug/L  
Expected RT: 7.81 min

Lab File: GCMS\_210630003.D  
Acq: 30 Jun 2021 05:01 pm

Tgt Ion: 96  
Sig Exp Ratio  
96 100  
62 0.0  
64 81.2



#3  
1,4-Dioxane  
Concen: N.D.  
Expected RT: 7.89 min

Lab File: GCMS\_210630003.D  
Acq: 30 Jun 2021 05:01 pm

Tgt Ion:	88
Sig	Exp Ratio
88	100
58	103.6

Data Path : J:\Southeast Rockford Groundwater\4. MS\E210602 and E210603 14diox\Templates\GCMS16\Data\210707mak\  
Data File : GCMS\_210707001.D  
Acq On : 07 Jul 2021 09:14 am  
Operator :  
Sample : DCM  
Misc :  
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 23 11:25:57 2021

Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M

Quant Title : Initial Calibration of 1,4-Dioxane 021317

QLast Update : Thu Jun 24 15:10:43 2021

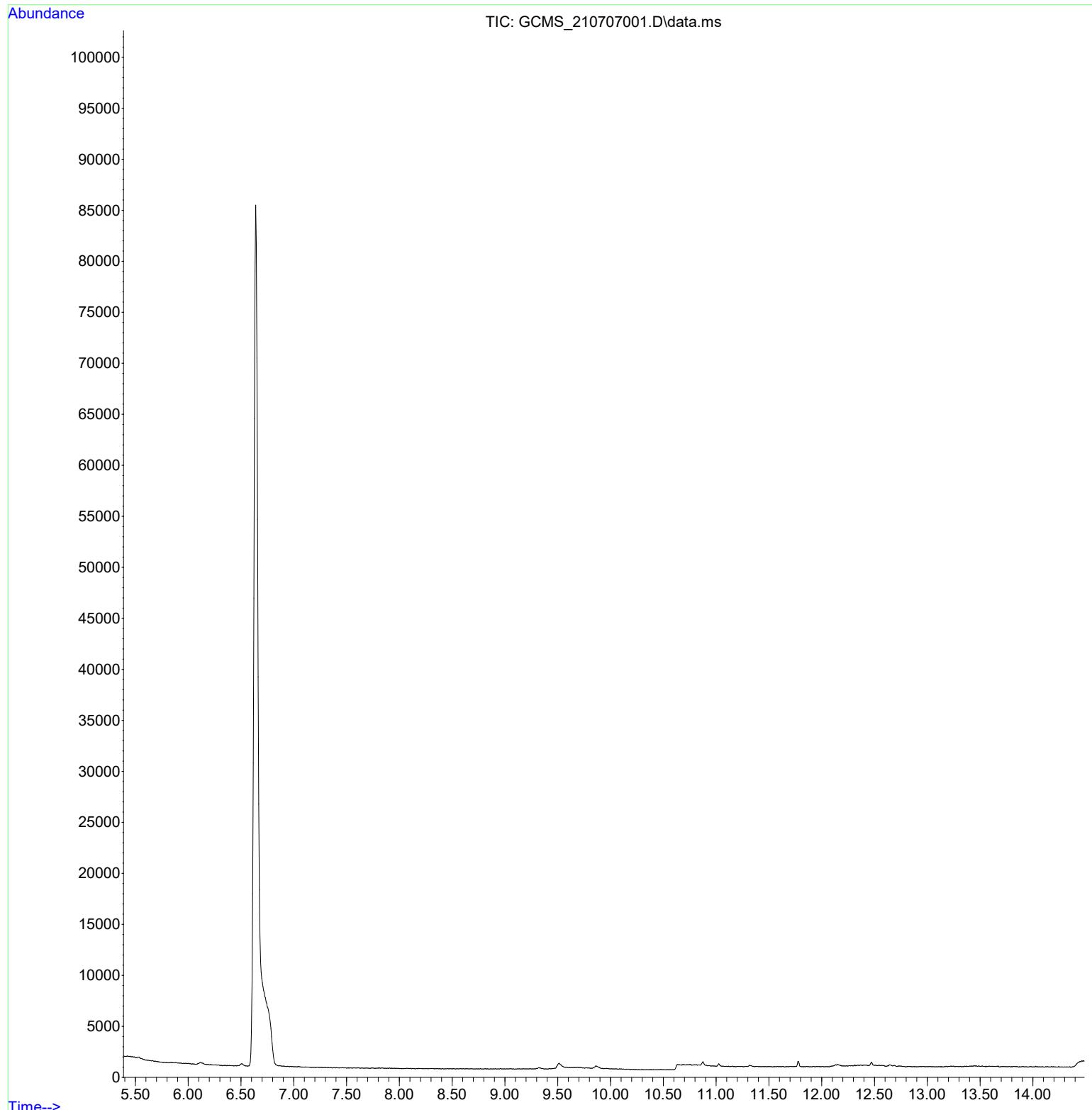
Response via : Initial Calibration

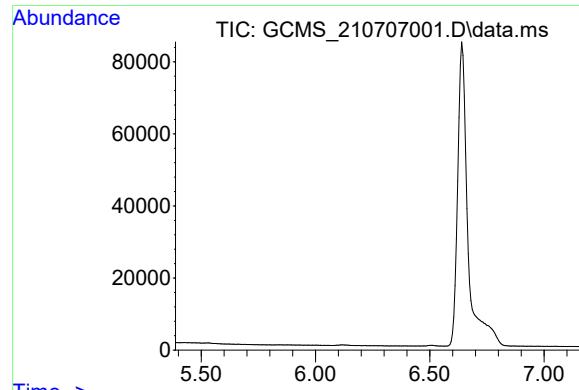
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	0.000	46	0	0.00	ug/L	-5.70
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	0.000	96	0	0.00	ug/L	
<hr/>						
Target Compounds					Qvalue	
3) 1,4-Dioxane	0.000		0	N.D.		
<hr/>						

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : J:\Southeast Rockford Groundwater\4. MS\E210602 and E210603 14diox\Templates\GCMS16\Data\210707mak\  
Data File : GCMS\_210707001.D  
Acq On : 07 Jul 2021 09:14 am  
Operator :  
Sample : DCM  
Misc :  
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 23 11:25:57 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration

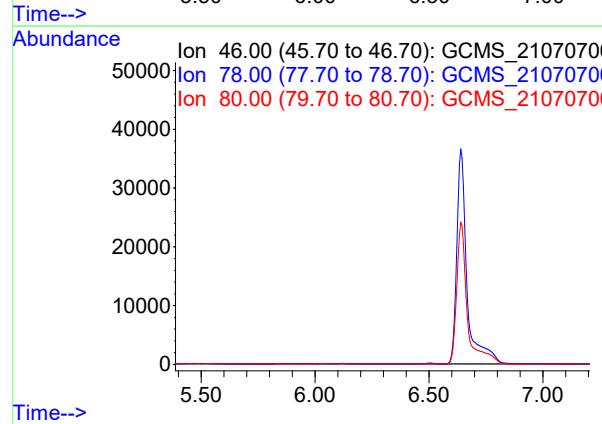


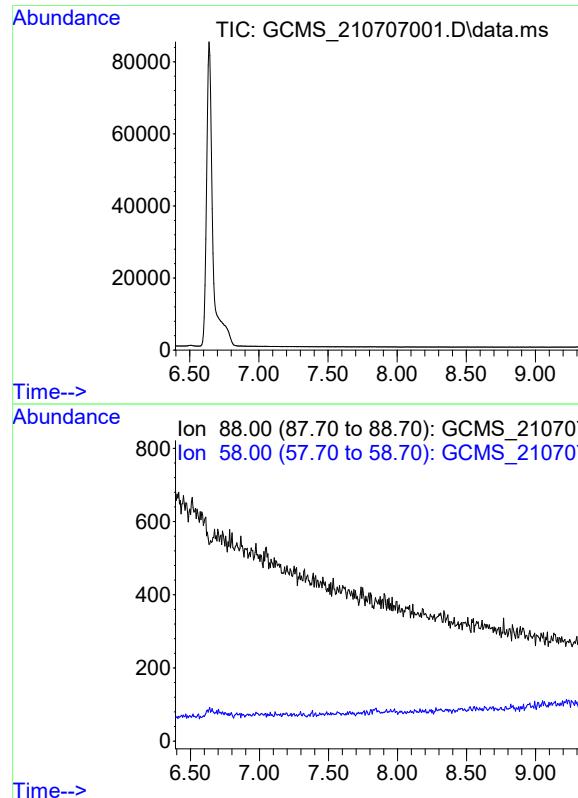


#1  
TETRAHYDROFURAN-D8  
Concen: 0.00 ug/L  
Expected RT: 5.70 min

Lab File: GCMS\_210707001.D  
Acq: 07 Jul 2021 09:14 am

Tgt Ion: 46  
Sig Exp Ratio  
46 100  
78 39.3  
80 41.5





#3  
1,4-Dioxane  
Concen: N.D.  
Expected RT: 7.89 min

Lab File: GCMS\_210707001.D  
Acq: 07 Jul 2021 09:14 am

Tgt Ion: 88  
Sig Exp Ratio  
88 100  
58 103.6

Data Path : J:\Southeast Rockford Groundwater\4. MS\E210602 and E210603 14diox\Templates\GCMS16\Data\210707mak\  
Data File : GCMS\_210707002.D  
Acq On : 07 Jul 2021 09:34 am  
Operator :  
Sample : DCM  
Misc :  
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 23 11:25:58 2021

Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M

Quant Title : Initial Calibration of 1,4-Dioxane 021317

QLast Update : Thu Jun 24 15:10:43 2021

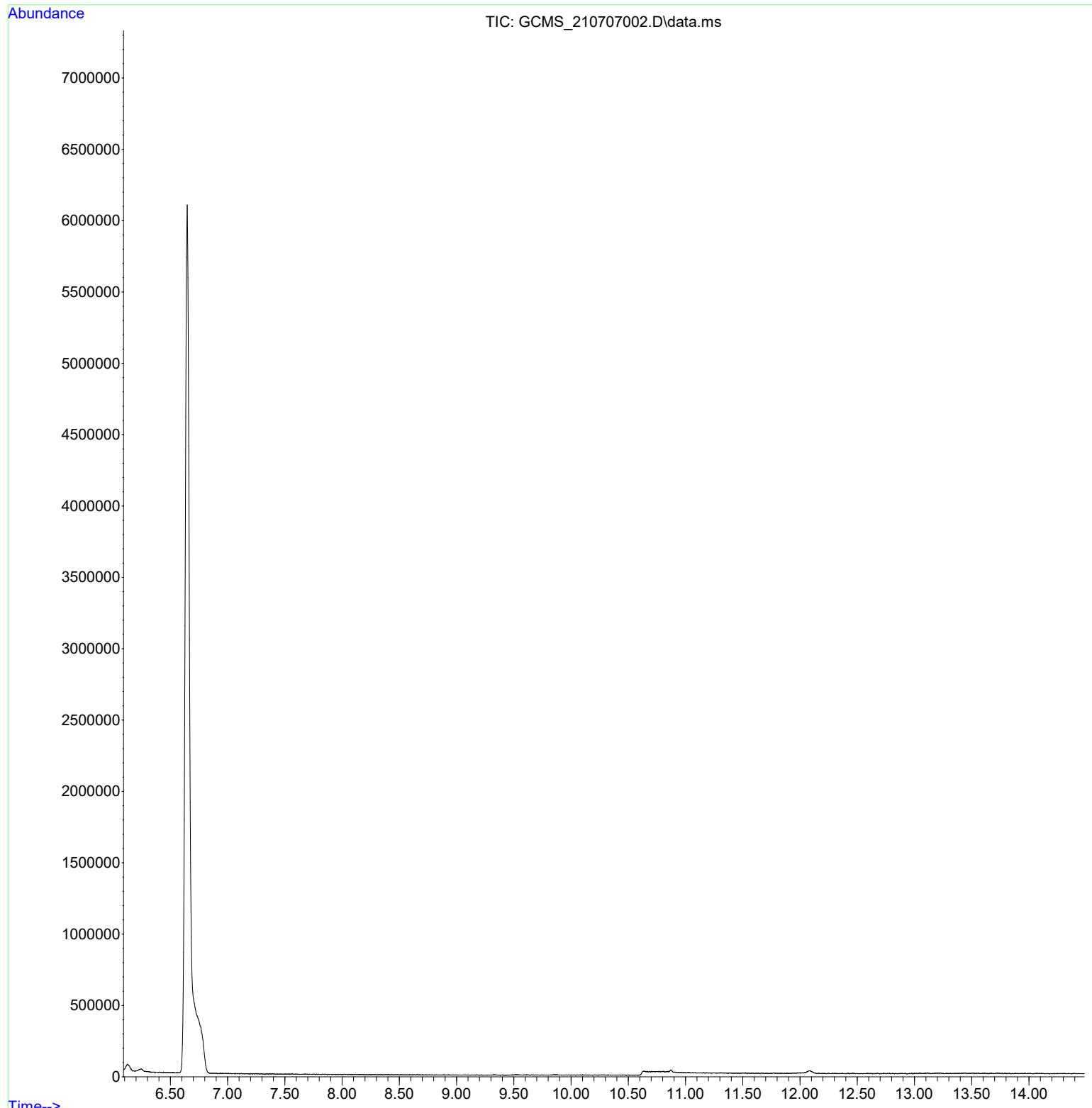
Response via : Initial Calibration

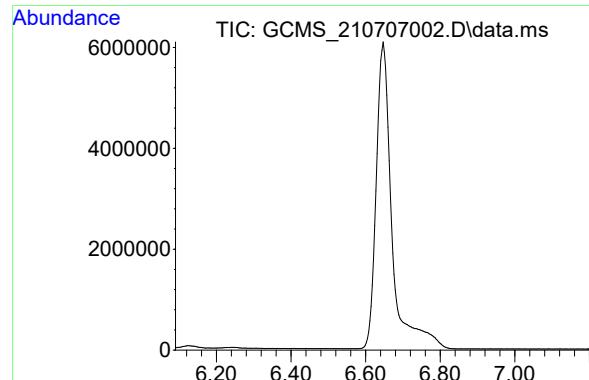
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	0.000	46	0	0.00	ug/L	-5.70
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	0.000	96	0	0.00	ug/L	
<hr/>						
Target Compounds					Qvalue	
3) 1,4-Dioxane	0.000		0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : J:\Southeast Rockford Groundwater\4. MS\E210602 and E210603 14diox\Templates\GCMS16\Data\210707mak\  
Data File : GCMS\_210707002.D  
Acq On : 07 Jul 2021 09:34 am  
Operator :  
Sample : DCM  
Misc :  
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 23 11:25:58 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration

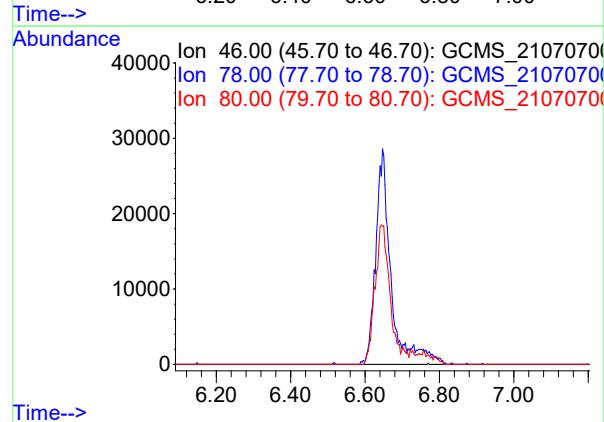




#1  
TETRAHYDROFURAN-D8  
Concen: 0.00 ug/L  
Expected RT: 5.70 min

Lab File: GCMS\_210707002.D  
Acq: 07 Jul 2021 09:34 am

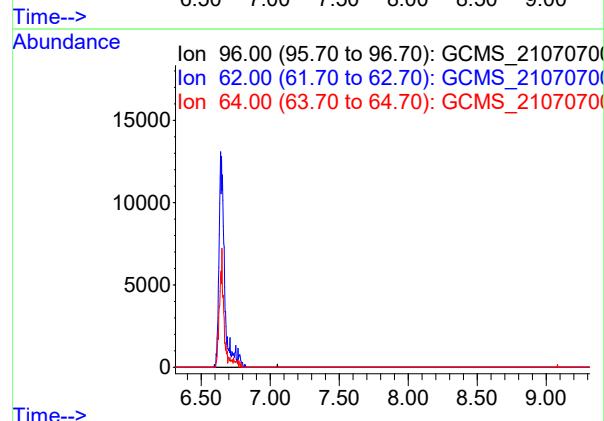
Tgt Ion: 46  
Sig Exp Ratio  
46 100  
78 39.3  
80 41.5

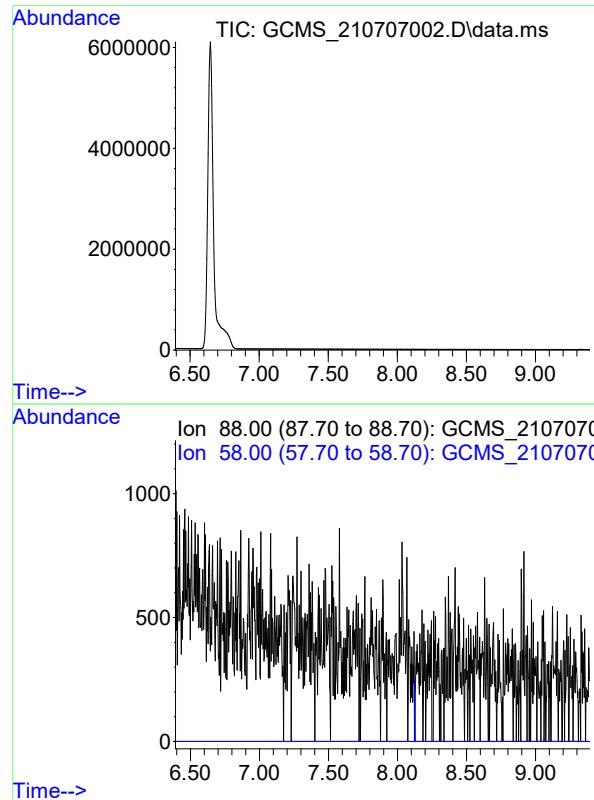


#2  
1,4-Dioxane-d8  
Concen: 0.00 ug/L  
Expected RT: 7.81 min

Lab File: GCMS\_210707002.D  
Acq: 07 Jul 2021 09:34 am

Tgt Ion: 96  
Sig Exp Ratio  
96 100  
62 0.0  
64 81.2





#3  
1,4-Dioxane  
Concen: N.D.  
Expected RT: 7.89 min  
  
Lab File: GCMS\_210707002.D  
Acq: 07 Jul 2021 09:34 am  
  
Tgt Ion: 88  
Sig Exp Ratio  
88 100  
58 103.6

Data Path : J:\Southeast Rockford Groundwater\4. MS\E210602 and E210603 14diox\Templates\GCMS16\Data\210707mak\  
Data File : GCMS\_210707003.D  
Acq On : 07 Jul 2021 09:56 am  
Operator :  
Sample : DCM  
Misc :  
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 23 11:25:59 2021

Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M

Quant Title : Initial Calibration of 1,4-Dioxane 021317

QLast Update : Thu Jun 24 15:10:43 2021

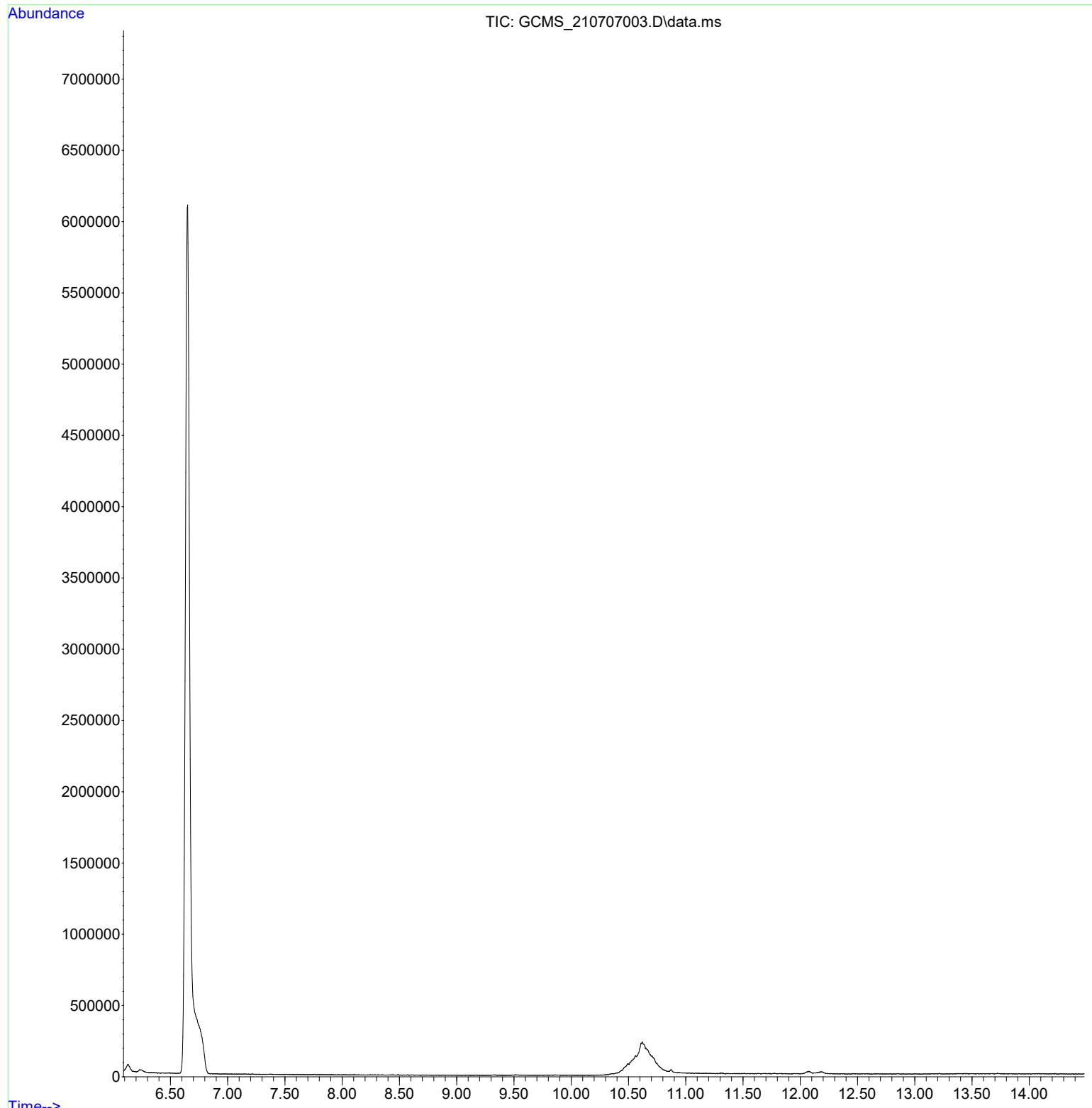
Response via : Initial Calibration

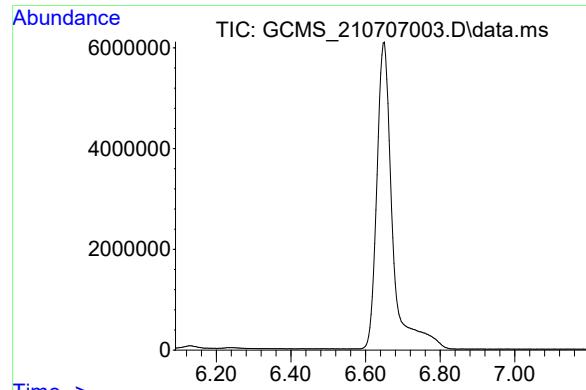
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	0.000	46	0	0.00	ug/L	-5.70
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	0.000	96	0	0.00	ug/L	
<hr/>						
Target Compounds					Qvalue	
3) 1,4-Dioxane	0.000		0	N.D.		
<hr/>						

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : J:\Southeast Rockford Groundwater\4. MS\E210602 and E210603 14diox\Templates\GCMS16\Data\210707mak\  
Data File : GCMS\_210707003.D  
Acq On : 07 Jul 2021 09:56 am  
Operator :  
Sample : DCM  
Misc :  
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 23 11:25:59 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration

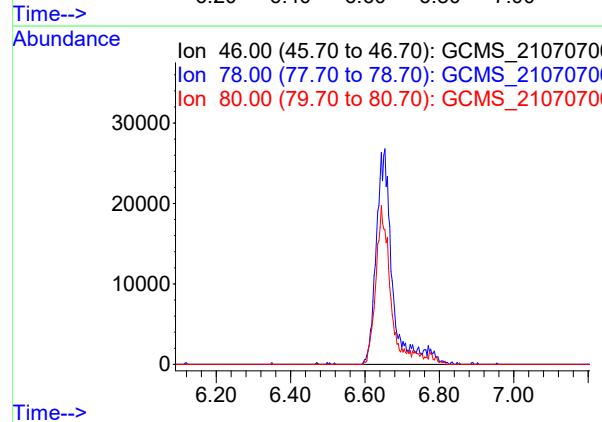




#1  
TETRAHYDROFURAN-D8  
Concen: 0.00 ug/L  
Expected RT: 5.70 min

Lab File: GCMS\_210707003.D  
Acq: 07 Jul 2021 09:56 am

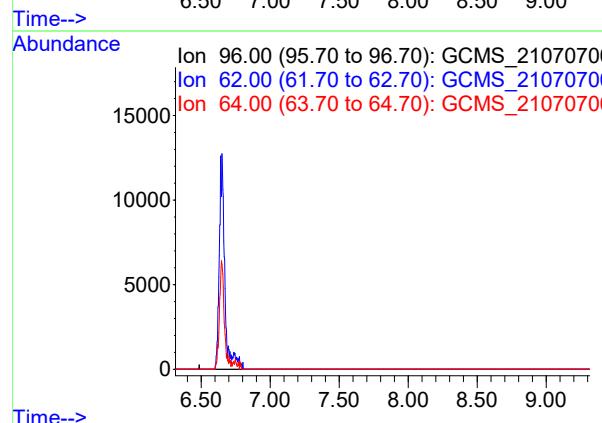
Tgt Ion: 46  
Sig Exp Ratio  
46 100  
78 39.3  
80 41.5

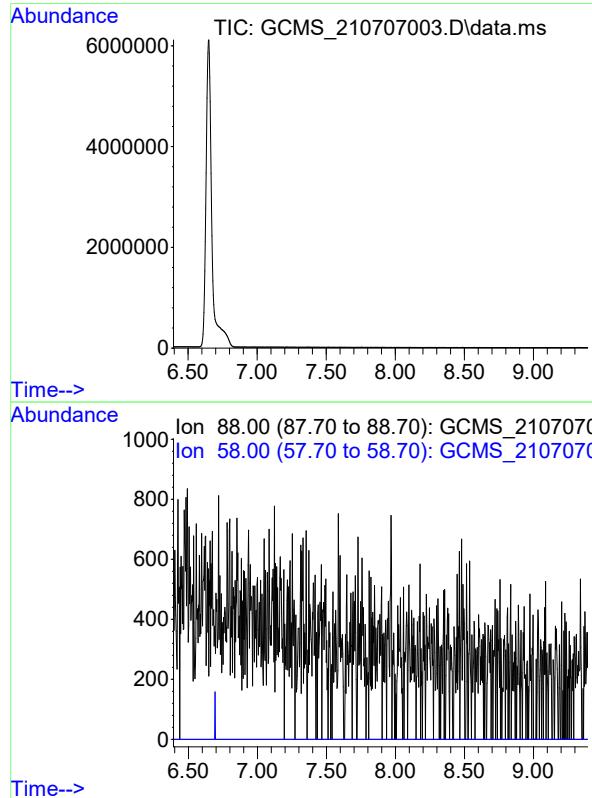


#2  
1,4-Dioxane-d8  
Concen: 0.00 ug/L  
Expected RT: 7.81 min

Lab File: GCMS\_210707003.D  
Acq: 07 Jul 2021 09:56 am

Tgt Ion: 96  
Sig Exp Ratio  
96 100  
62 0.0  
64 81.2





#3  
1,4-Dioxane  
Concen: N.D.  
Expected RT: 7.89 min  
  
Lab File: GCMS\_210707003.D  
Acq: 07 Jul 2021 09:56 am  
  
Tgt Ion: 88  
Sig Exp Ratio  
88 100  
58 103.6

Data Path : J:\Southeast Rockford Groundwater\4. MS\E210602 and E210603 14diox\Templates\GCMS16\Data\210707mak\  
Data File : GCMS\_210707004.D  
Acq On : 07 Jul 2021 11:35 am  
Operator :  
Sample : DCM  
Misc :  
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 23 11:26:00 2021

Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M

Quant Title : Initial Calibration of 1,4-Dioxane 021317

QLast Update : Thu Jun 24 15:10:43 2021

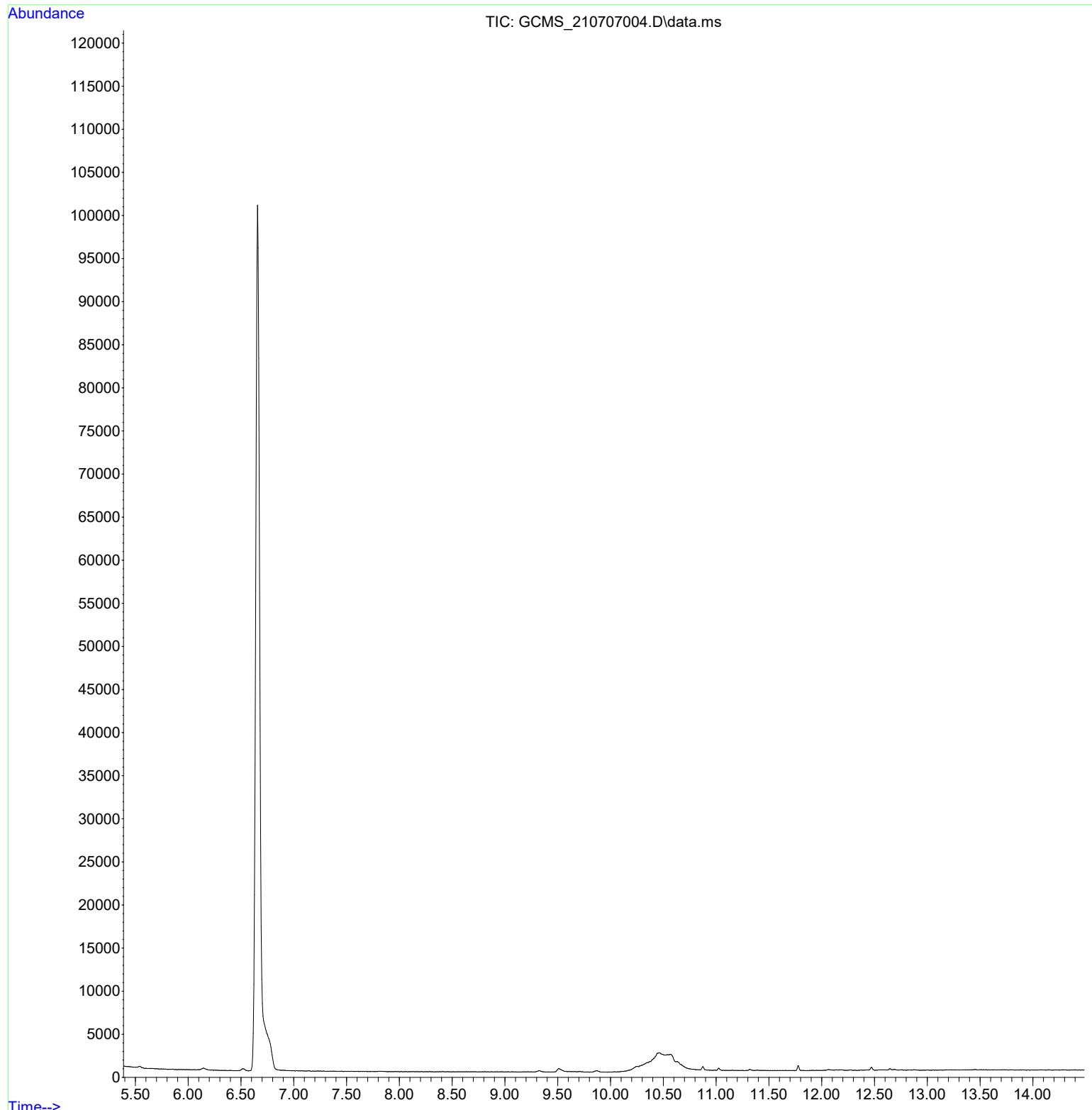
Response via : Initial Calibration

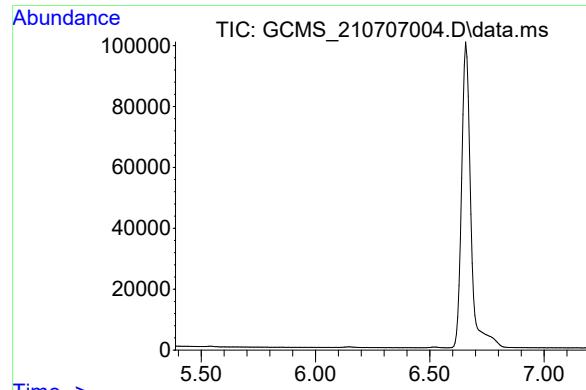
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	0.000	46	0	0.00	ug/L	-5.70
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	0.000	96	0	0.00	ug/L	
<hr/>						
Target Compounds					Qvalue	
3) 1,4-Dioxane	0.000		0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : J:\Southeast Rockford Groundwater\4. MS\E210602 and E210603 14diox\Templates\GCMS16\Data\210707mak\  
Data File : GCMS\_210707004.D  
Acq On : 07 Jul 2021 11:35 am  
Operator :  
Sample : DCM  
Misc :  
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 23 11:26:00 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration

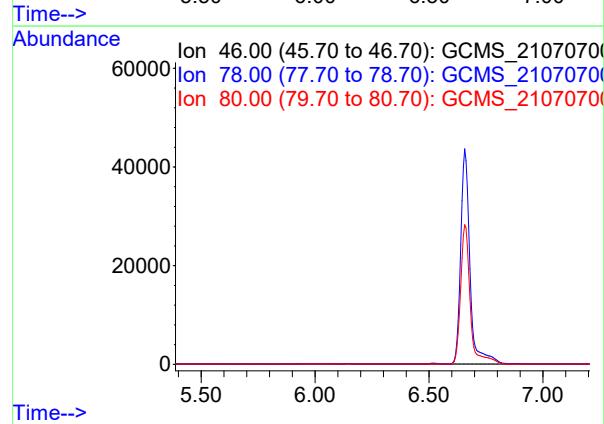


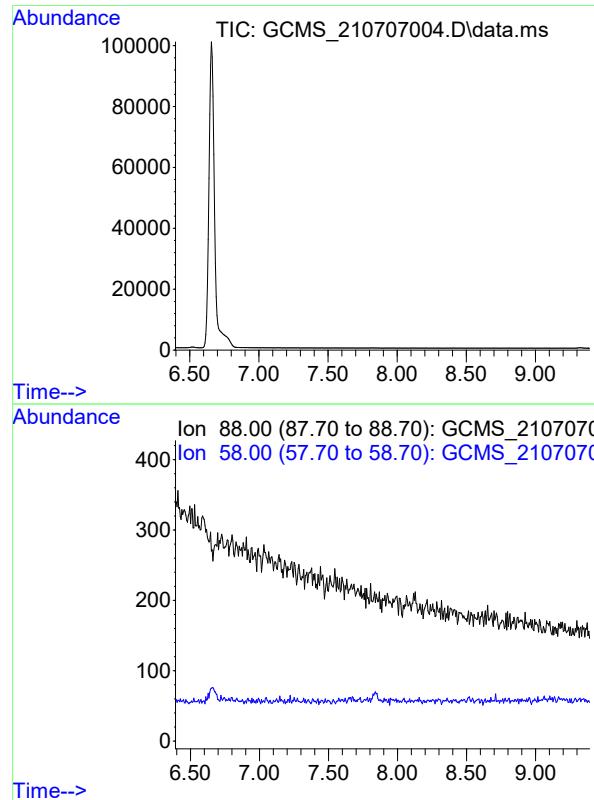


#1  
TETRAHYDROFURAN-D8  
Concen: 0.00 ug/L  
Expected RT: 5.70 min

Lab File: GCMS\_210707004.D  
Acq: 07 Jul 2021 11:35 am

Tgt Ion: 46  
Sig Exp Ratio  
46 100  
78 39.3  
80 41.5





#3  
1,4-Dioxane  
Concen: N.D.  
Expected RT: 7.89 min  
  
Lab File: GCMS\_210707004.D  
Acq: 07 Jul 2021 11:35 am  
  
Tgt Ion: 88  
Sig Exp Ratio  
88 100  
58 103.6

Data Path : J:\Southeast Rockford Groundwater\4. MS\E210602 and E210603 14diox\Templates\GCMS16\Data\210707mak\  
Data File : GCMS\_210707005.D  
Acq On : 07 Jul 2021 11:56 am  
Operator :  
Sample : DCM  
Misc :  
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 23 11:26:01 2021

Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M

Quant Title : Initial Calibration of 1,4-Dioxane 021317

QLast Update : Thu Jun 24 15:10:43 2021

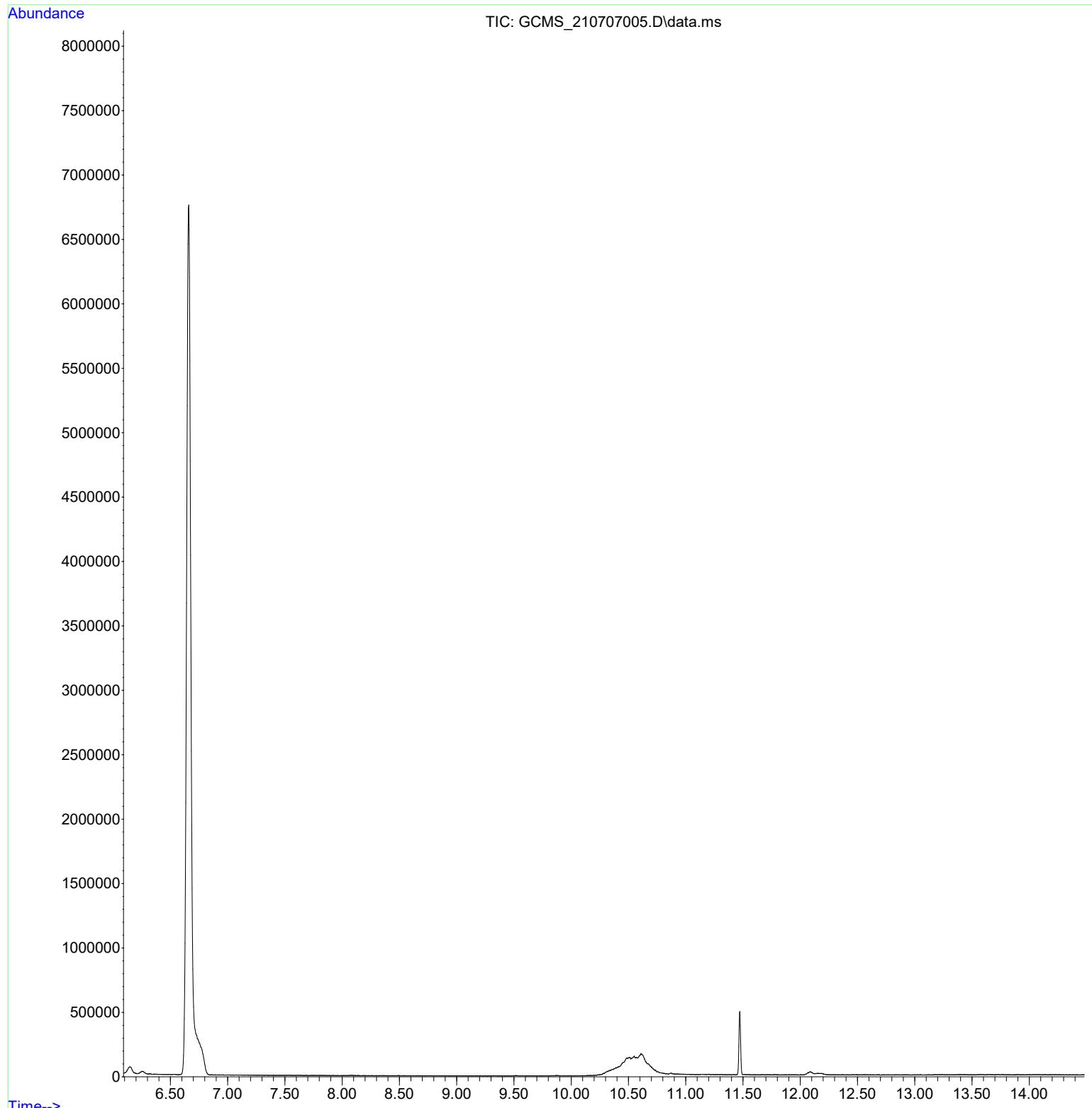
Response via : Initial Calibration

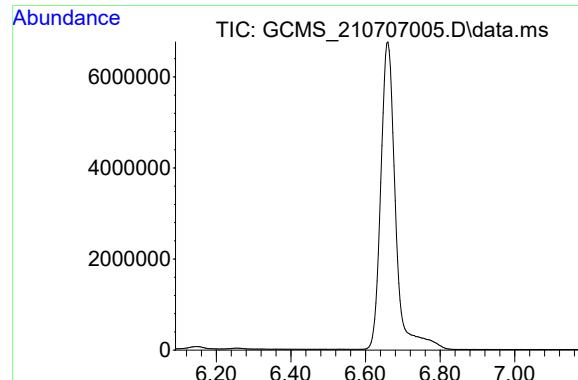
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) TETRAHYDROFURAN-D8	0.000	46	0	0.00	ug/L	-5.70
<hr/>						
System Monitoring Compounds						
2) 1,4-Dioxane-d8	0.000	96	0	0.00	ug/L	
<hr/>						
Target Compounds					Qvalue	
3) 1,4-Dioxane	0.000		0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : J:\Southeast Rockford Groundwater\4. MS\E210602 and E210603 14diox\Templates\GCMS16\Data\210707mak\  
Data File : GCMS\_210707005.D  
Acq On : 07 Jul 2021 11:56 am  
Operator :  
Sample : DCM  
Misc :  
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 23 11:26:01 2021  
Quant Method : D:\MassHunter\Methods\Quant\14Dioxane\_SIM\_Process\_210624\_mak.M  
Quant Title : Initial Calibration of 1,4-Dioxane 021317  
QLast Update : Thu Jun 24 15:10:43 2021  
Response via : Initial Calibration

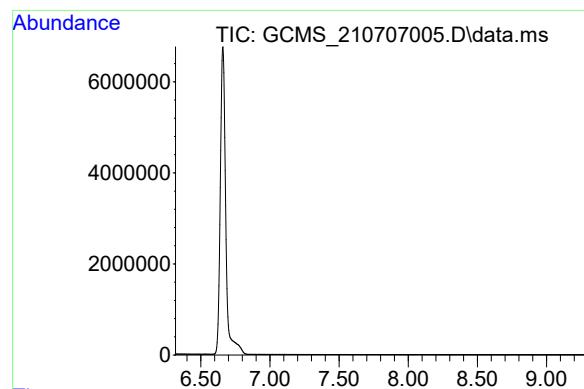
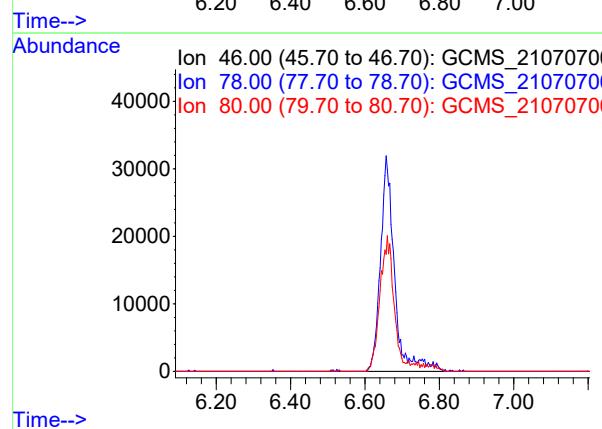




#1  
TETRAHYDROFURAN-D8  
Concen: 0.00 ug/L  
Expected RT: 5.70 min

Lab File: GCMS\_210707005.D  
Acq: 07 Jul 2021 11:56 am

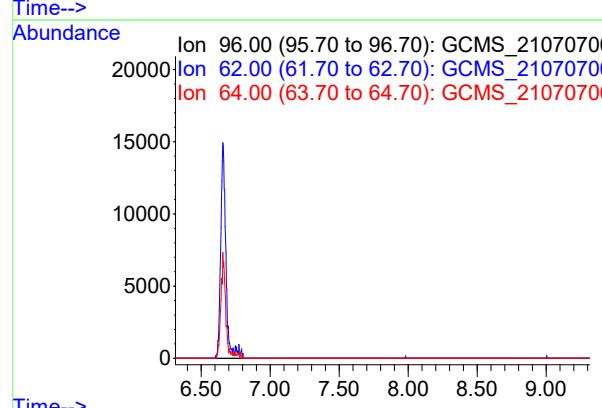
Tgt Ion: 46  
Sig Exp Ratio  
46 100  
78 39.3  
80 41.5

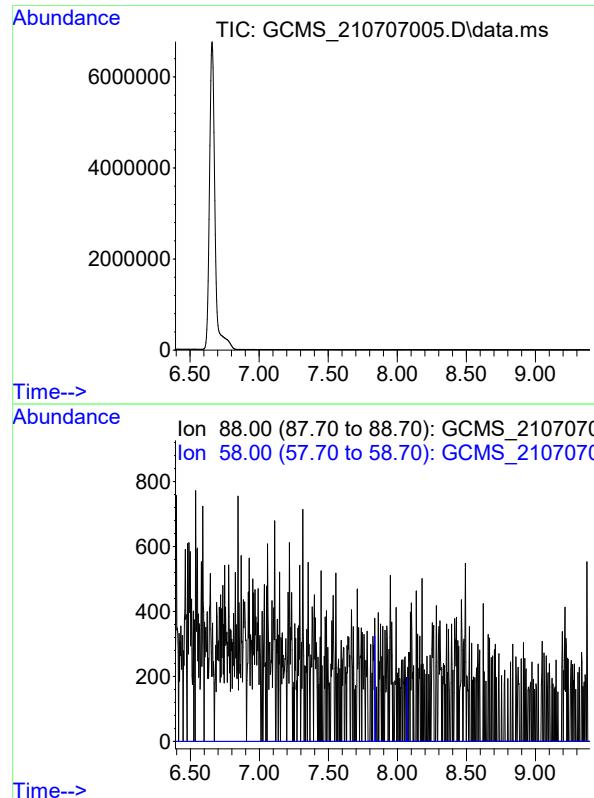


#2  
1,4-Dioxane-d8  
Concen: 0.00 ug/L  
Expected RT: 7.81 min

Lab File: GCMS\_210707005.D  
Acq: 07 Jul 2021 11:56 am

Tgt Ion: 96  
Sig Exp Ratio  
96 100  
62 0.0  
64 81.2





#3  
1,4-Dioxane  
Concen: N.D.  
Expected RT: 7.89 min

Lab File: GCMS\_210707005.D  
Acq: 07 Jul 2021 11:56 am

Tgt Ion: 88  
Sig Exp Ratio  
88 100  
58 103.6